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HARPER'S SCHOOL



GEOGRAPHY

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MAPS

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HARPER'S SCHOOL

GEOGRAPHY



WITH MAPS AND ILLUSTRATIONS

PREPARED EXPRESSLY FOR THIS WORK

BY EMINENT AMERICAN ARTISTS

NEW YORK
HARPER & BROTHERS

1886

PUBLISHERS' ADVERTISEMENT.

IN presenting to the public this work on geography, the publishers respectfully invite the attention of Boards of Education, teachers, and parents to the following statement of its plan and leading features :

The study of geography is now, much more than at any former period, an essential element in education. It is second in importance only to reading, writing, and rudimentary arithmetic. The newspaper is and must continue to be the chief source of that knowledge of current events which is indispensable to every intelligent person. Its telegrams and other items and articles necessarily assume that the reader possesses a knowledge of certain geographical facts. It is the aim of this work to present and impress these facts.

To this end the careful selection and arrangement of topics have been regarded as matters of prime necessity in order to insure such a unity of plan as to present a simple, yet practical, definite, and coherent view of the subject.

The geography of commerce has been made the leading line of thought, because commerce, domestic and foreign, is becoming more and more a dominant interest in the affairs of the leading nations of the world, and because no other department of the general subject presents in such bold relief their rivalries and mutual dependencies. It involves a systematic presentation of the resources and industries of countries as dependent upon climate, soil, mineral deposits, and other physical conditions. It also includes all important information concerning cities and towns as commercial, manufacturing, and mining centres, and an outline of the system of transportation, domestic and international. The tables of reference show the total imports and exports of all the maritime nations, and particularly the commerce of each of these countries with the United States.

The work is essentially in two distinct parts—a physical geography and a political geography. The physical geography is treated with sufficient fulness, and presents no difficulty greater than the description of a chain of mountains or of the course of a river. A systematic outline of this department will be found in the questions of the general review. Each of the two parts has a series of special maps, exercises, and descriptions. Each series is complete in itself,

and may be so taught if it be thought desirable. Again, by a difference in type and by the arrangement of the questions, each series presents the choice of a simple outline or a fuller course.

The questions are so clearly related to the maps and the text as to avoid the serious difficulties which frequently arise from obscurity in this connection. The cities and towns called for by the text are at once pointed out both by the prominence of the type and by a peculiar device of color which will be found upon the maps.

Among the many other original matters of great practical importance to pupils and teachers are the map showing the divisions and subdivisions of the United States, and the Industrial and Commercial Map of the United States, exhibiting the leading industries and resources of the country, and its various existing and proposed systems of transportation by railroad, coast lines, and interior water-ways, the whole for the first time so simply and clearly presented as to be easily committed to memory.

The definitions are few and brief, and, like the rest of the work, are expressed in the simplest language which the subject will allow.

The map-drawing exercises and the tabular reviews are simple and practical, and will commend themselves to teachers.

The perfect clearness and legibility of the maps and the character of the type used in the text prevent injury to the sight of the pupil and teacher.

In view of the limited time which can be given to geography in school, this treatise has been made as concise as possible, without limiting its comprehensiveness. This is not only very desirable in itself, but was made necessary by the large type and the great space given to the instructive pictorial illustrations. While great care has been taken to reject all matter not strictly relevant, it is believed that no other School Geography presents so many essential facts and principles in so few words.

The character of the type and the quality of the illustrations, maps, paper, and binding of this work leave it without a rival in the beauty and excellence of its mechanical execution.

The work in all its details shows that the author is a practical teacher, to whom the difficulties of the class-room are thoroughly familiar.

FRANKLIN SQUARE, NEW YORK, January, 1876.

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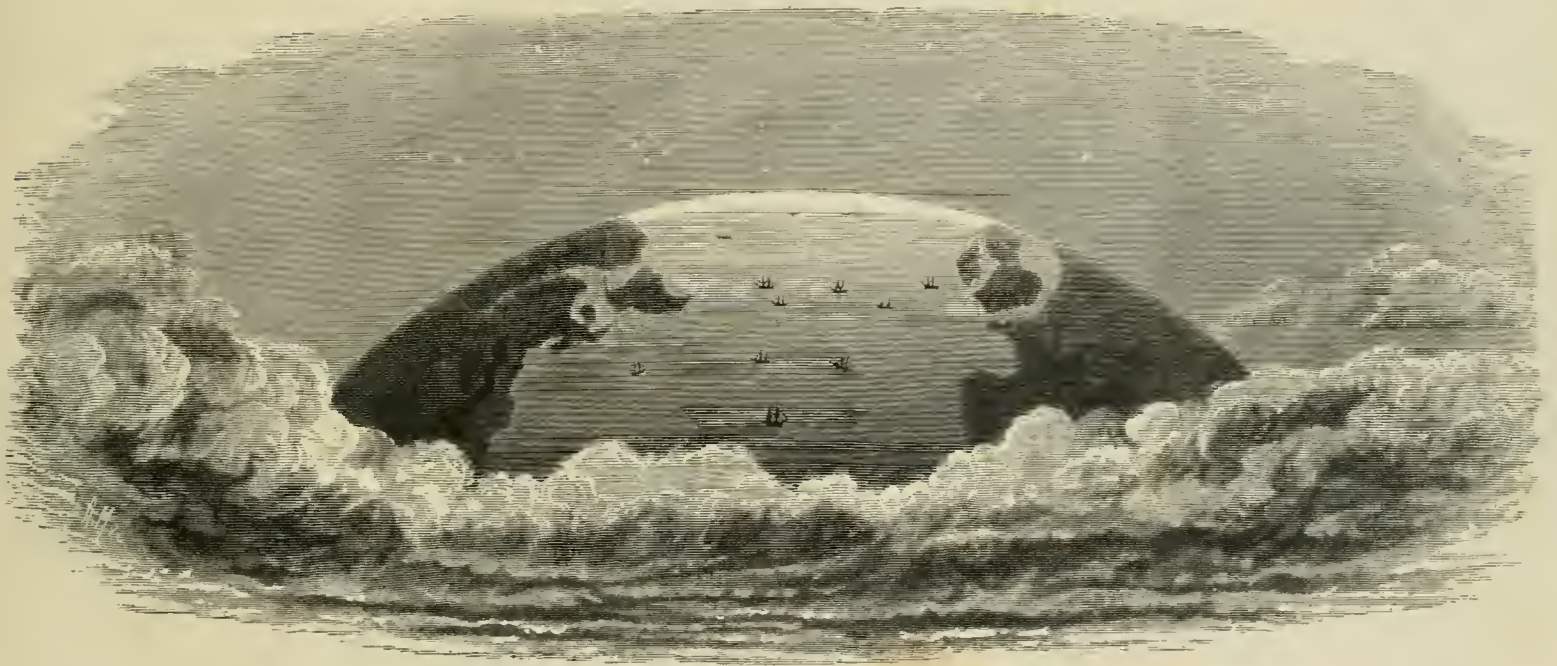
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GEOGRAPHY.



MATHEMATICAL GEOGRAPHY.

I.

THE EARTH: ITS SHAPE AND SIZE.

1. **Geography** is a description of the surface of the earth, and of its countries and their inhabitants.

2. **The shape** of the earth is nearly that of a ball, globe, or sphere.

The earth does not appear to be shaped like a ball, but looks like a large plain, stretching out in every direction. The reason of this is that we see only a small part of it at one time.

NOTE.—To ensure correct conceptions on the part of the pupil, it is recommended that the lessons on Mathematical Geography be illustrated by means of a globe.

3. We know that the earth is shaped like a ball from the following facts:

First. Ships have sailed around it.

Second. When a ship sails away from the land, the hull or body first disappears from sight, then the sails, and last the tops of the masts.

When a ship is coming in from sea, the tops of the masts are seen first, then the sails, and lastly the hull or body. If the surface of the water were flat, the hull would be seen as soon as the masts.

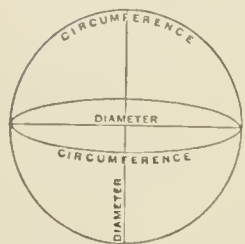
In like manner, in travelling across broad plains we see the tops of distant mountains long before their bases are visible.



Third. The shadow which the earth casts upon the moon is always circular.

A ball or sphere being the only body that always casts a circular shadow, we conclude that the earth has the shape of a ball or sphere.

4. A **diameter** of a sphere is any straight line drawn through the centre from surface to surface.



The diameter of the earth is nearly eight thousand miles.

5. A **circumference** of a sphere is the greatest distance around it.

The circumference of the earth is nearly twenty-five thousand miles.

6. **The surface** of the earth contains nearly two hundred millions of square miles.

7. **The horizon** is that circle upon which the earth and the sky appear to meet.

That point of the horizon towards which your shadow falls at noon is called **north**.*

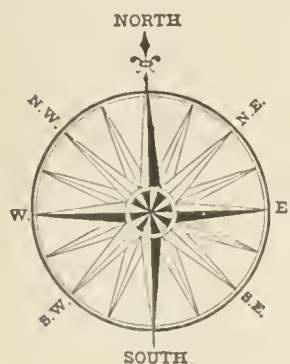
The opposite point is called **south**. If you face the north, your right hand is towards the **east**, and your left hand is towards the **west**.



8. North, east, south, and west are called the cardinal points of the horizon. The points midway between these

are called northeast, southeast, southwest, and northwest.

9. **The compass** is an instrument used by mariners and surveyors. It consists of a circular card representing the horizon and its points. Over the centre of the card is a magnetic needle, balanced on a pivot: this needle points towards the north.



Questions.—What does this section tell about?—1. What is geography?—2. What is the shape of the earth? How does the earth appear to us? Why is this?—3. What is the first fact by which we know that the earth is a globe? The second fact? The third fact?—4. What is a diameter of a sphere? How long is the earth's diameter?—5. What is a circumference of a sphere? How long is the earth's circumference?—6. How many square miles in the surface of the earth?—7. What is the horizon? Which way is north, south, etc.?—8. Which are the cardinal points? The points between these?—9. Describe the compass.

* This is true only in the Northern Hemisphere.

II.

MOTIONS OF THE EARTH.

1. The earth has two constant motions, the daily and the annual.

2. **The daily motion** of the earth is its rotation on one of its diameters. The direction of the motion is from west to east: this causes the sun to appear to move from east to west. The sun appears to rise in the east because the place where we are is moving towards it; it appears to set in the west because the place where we are is moving from it.

The diameter on which the earth turns is called its **axis**. The time in which the earth turns on its axis is called a day.

3. The daily rotation causes the succession of **day and night**. Each place is carried into the sunlight, and then into the shade of the earth.

4. **The poles** are the points at the ends of the axis. One is called the North Pole, the other the South Pole.

5. The swiftness of the rotation has caused the earth to be slightly flattened at the poles, and to bulge out a little midway between them. A globe flattened at the poles is called an **oblate spheroid**. The length of the earth's axis, or shortest diameter, is 7899 miles; the longest diameter is 7925 miles. The greatest circumference is 24,899 miles.



NOTE.—The polar diameter is about one three-hundredth less than the equatorial.

6. The earth moves around the sun in a nearly circular path, called its orbit. The time in which the earth revolves around the sun is called a year. It contains nearly $365\frac{1}{4}$ days. This motion is called the **annual revolution**.

7. The axis of the earth is inclined to its orbit. This inclination never changes.

8. The annual revolution of the earth and the inclination of its axis cause the change of the **seasons**.

Questions.—What does this section tell about?—1. How many motions has the earth? What are they?—2. What is the daily motion of the earth? In what direction is it? How does the sun appear to move? Why does it appear to rise and set? What is the axis of the earth? What is a day?—3. What is caused by the daily rotation of the earth?—4. What are the poles? What are they called?—5. What effect has the swiftness of the rotation? What name is given to the true shape of the earth? What is an oblate spheroid? How many miles difference between the longest and the shortest diameter? How long is the greatest circumference?—6. What other motion has the earth? What is the shape of its path? Its name? What is a year? How long is it?—7. What is the position of the earth's axis? Does the inclination change?—8. What cause the change of the seasons?

III.

THE CIRCLES OF THE EARTH.

1. **The circles of the earth*** are lines imagined to be drawn on its surface.

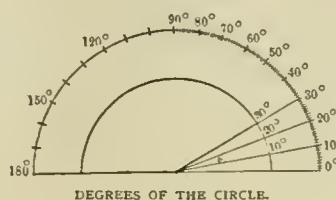
These circles are of two kinds—great circles and small circles.

2. A **great circle** is one that divides the earth into two equal parts. Each of these parts is called a hemisphere, which means a half-sphere.

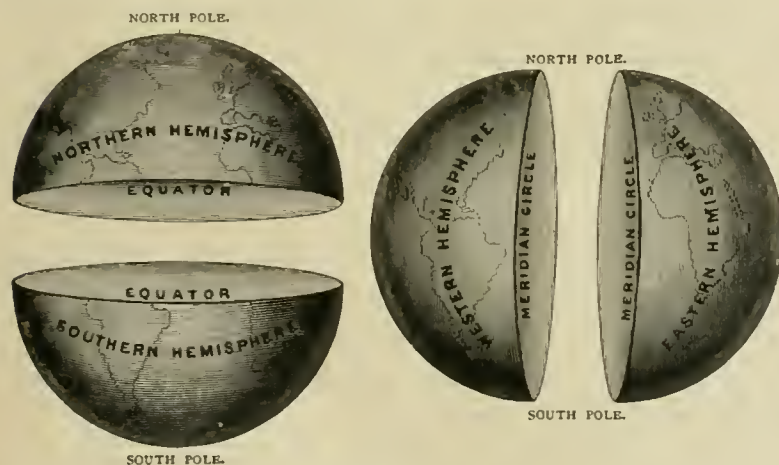
3. A **small circle** is one that divides the earth into two unequal parts.

4. Every circle is divided into 360 equal parts called degrees; each degree is divided into 60 equal parts called minutes; and each minute into 60 equal parts called seconds.

The smaller the circle, the shorter are the degrees. Degrees are marked °, minutes ', and seconds ". Thus twelve degrees, fifteen minutes, and ten seconds are written 12° 15' 10".



5. **The Equator** is that great circle which is midway between the poles. It divides the earth into a Northern and a Southern Hemisphere.



6. **Meridian circles** are those great circles which pass through the poles. Each divides the earth into an Eastern and a Western Hemisphere.

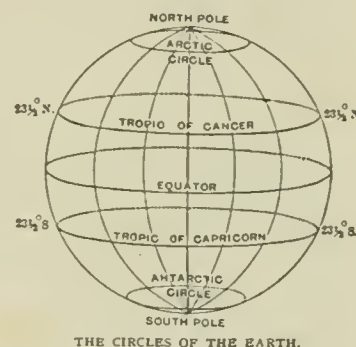
7. A **meridian** is half of a meridian circle, and extends from pole to pole.

8. **Parallels** are small circles parallel to the Equator. The principal parallels are the two tropics and the two polar circles.

* In Geometry, a distinction is made between the circle and its boundary line or circumference. The circle is really the space or surface bounded by the circumference. This distinction is not necessary in Geography.

9. **The tropics** are those parallels which are 23½ degrees from the Equator. The northern is called the Tropic of Cancer, and the southern the Tropic of Capricorn.

10. **The polar circles** are those parallels which are 23½ degrees from the poles. The northern is called the Arctic Circle, and the southern the Antarctic Circle.



Questions (I.)—1. What are the circles of the earth? How many kinds of circles? What are they?—2. What is a great circle? What is a hemisphere?—3. What is a small circle?—4. How is every circle divided? How are degrees divided? How are minutes divided?—5. What is the Equator? Into what does it divide the earth?—6. What are meridian circles? Into what does each divide the earth?—7. What is a meridian?—8. What are parallels? Which are the principal parallels.—9. What are the tropics? Give the name of each?—10. What are the polar circles? Give the name of each?

(II.)—Read 32° 15' 47"; 49° 11' 37". Which is larger, a degree of the Equator or of a tropic? Why? Of the Equator or of a meridian? Why? Of a tropic or of the Arctic Circle? Why? Which is the greater, the Eastern Hemisphere or the Northern? Why? How many meridian circles may there be? How many Equators? How many parallels? How many meridians?

IV.

LATITUDE.—LONGITUDE.—ZONES.

1. **Latitude** is distance north or south from the Equator. It is measured, in degrees, on a meridian. Places between the Equator and the North Pole are in north latitude; those between the Equator and the South Pole are in south latitude; those on the Equator have no latitude. The poles have the greatest possible latitude, which is 90 degrees.

2. **Longitude** is distance east or west from a selected meridian. It is measured, in degrees, on the Equator or any parallel. The selected meridian is called the first meridian.

The meridian in most common use is that which passes through Greenwich Observatory, near London. In the United States the meridian of Washington is sometimes used; in France that of Paris; in Germany that of Berlin; etc.

Places on the first meridian have no longitude. The greatest longitude is 180 degrees, east or west.

A degree of any great circle measures 60 geographical miles, or about 69½ statute miles of the United States. A degree on the parallel of 60° is just half as long.

3. **Zones** are broad belts or divisions of the earth's surface parallel to the Equator. They are bounded by the tropics and the polar circles.

4. There are **five zones**: one Torrid, two Temperate, and two Frigid Zones.

5. **The Torrid Zone** extends from the Tropic of Cancer to the Tropic of Capricorn.

Torrid means hot. This zone is the hottest part of the earth, because the sun is always shining directly down upon some part of it. It is 47 degrees wide, or $23\frac{1}{2}$ degrees on each side of the Equator, and is the largest zone.

6. **The North Frigid Zone** extends from the Arctic Circle to the North Pole.

The South Frigid Zone extends from the Antarctic Circle to the South Pole.

Frigid means frozen. The Frigid Zones are the coldest parts of the earth, because the sun shines upon each of them during only a part of the year, and with very slanting rays. Each extends $23\frac{1}{2}$ degrees from the pole at its centre. They are the smallest, least important, and least known of the zones. The South Frigid Zone is not known to have one human inhabitant.

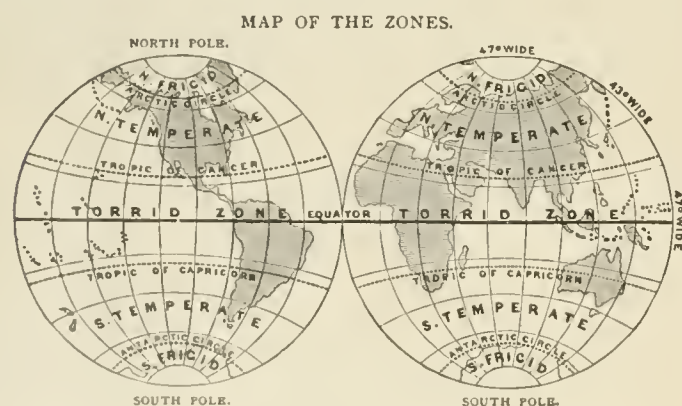
7. **The North Temperate Zone** extends from the Arctic Circle to the Tropic of Cancer.

The South Temperate Zone extends from the Antarctic Circle to the Tropic of Capricorn.

Temperate means moderate. Each of the Temperate Zones is 43 degrees wide. The North Temperate Zone is the most important portion of the world. It contains nearly three fourths of the human race.

NOTE.—The axis of the earth is inclined $23\frac{1}{2}$ degrees towards its orbit. This determines the breadth of the several zones, the tropics being $23\frac{1}{2}$ degrees from the Equator, and the polar circles being $23\frac{1}{2}$ degrees from the Poles.

The four seasons, spring, summer, autumn, and winter, are found only in the Temperate Zones.



Questions (I).—1. What is latitude? How is it measured? On what? In what directions? What places are in north latitude? In south latitude? What places have no latitude? What places have the greatest latitude? How many degrees?—2. What is longitude? How is it measured? On what? In what directions? What is the name of the meridian from which longitude is reckoned? What places have no longitude? What is the greatest longitude a place can have?—3. What are zones? By what are they bounded?—4. How many zones are there? Name them.—5. Where is the Torrid Zone?—6. The North Frigid? The South Frigid?—7. The North Temperate Zone? The South Temperate Zone? Which zones have four seasons during the year?

(II).—2. What meridian is in most common use? What meridian is sometimes used in the United States? In England? In France? In Germany?—3. How many miles in a degree of a great circle? On the parallel of 60° ?—5. Which is the hottest

zone? Why? What does its name mean? How wide is it? What great circle passes through the middle of it?—6. Which zones are the coldest parts of the earth? Why? What does their name mean? What point in the centre of each? How wide are they?—7. How wide are the Temperate Zones? What does their name mean?—Which is the largest zone? The smallest? The hottest? The least important? Why? The most important? Why? Where are the coldest parts of the Temperate Zones? Where are the warmest parts?

V. GLOBES AND MAPS.

MAP OF THE WORLD.



1. The surface of the earth may be represented by globes and maps.

2. **A globe** is a sphere representing the form of the earth, its circles, and the principal divisions of the land and water.

3. **A map** is a representation of the whole or a part of the earth's surface on a plane.

A plane is a flat surface. The surface of a sphere can not be exactly represented upon a plane. Small portions of the earth's surface can be more correctly represented upon maps than very large ones.

4. Parallels cross the map from side to side; meridians, from top to bottom. East is in the direction of the parallels towards the right; west, towards the left. North is in the direction of the meridians towards the top; south, towards the bottom.

5. Figures showing the latitude are placed on the sides of the map; those showing the longitude are placed at the top and the bottom.

EXCEPTION.—In the maps of the Eastern and Western Hemispheres the longitude is marked on the Equator.

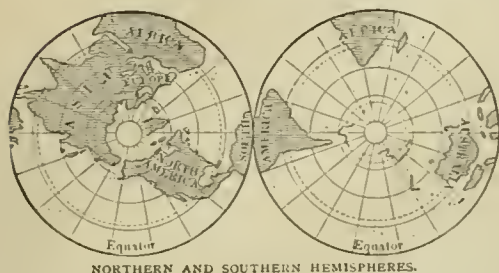
Questions (I).—1. How may the surface of the earth be represented?—2. What is a globe?—3. What is a map?—4. How are parallels represented upon a map? How are meridians represented? Which way is east? West? North? South?—5. Where are the figures showing the latitude placed? Those showing the longitude? What exception?

(II).—3. What is a plane? Can the surface of a sphere be exactly represented upon a map? Why? (Experiment with the peel of half of an orange.) Which can be made the more accurate, a map of a large portion of the earth's surface or one of a small portion? Why? Which represents the earth with more exactness, a globe or a map? Why?

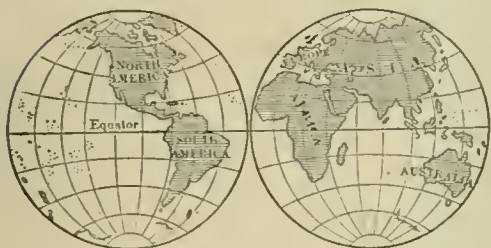
PHYSICAL GEOGRAPHY.

VI.

DIVISIONS OF THE LAND.



NORTHERN AND SOUTHERN HEMISPHERES.



WESTERN AND EASTERN HEMISPHERES.



LAND AND WATER HEMISPHERES.

1. The surface of the earth consists of land and water. About one fourth is land, and about three fourths water.

The Northern Hemisphere contains about three times as much land as the Southern; the Eastern Hemisphere about two and a half times as much as the Western. The earth may be so divided that nearly all the land would be in one hemisphere, and the other would be nearly all water.

2. The land surface of the earth is divided into continents and islands.

3. A **continent** is a very large body of land.

4. There are six continents. Four are in the Eastern Hemisphere—Europe, Asia, Africa, and Australia. Two are in the Western Hemisphere—North America and South America.

The three large continents of the Eastern Hemisphere are joined into one great land-mass called the Old World (see map on page 4). The united continents of the Western Hemisphere form the New World. It is so called because discovered only a few centuries ago. Some geographers call the Old World the Eastern Continent, and the New World the Western Continent or the American Continent.

5. An **island** is a body of land entirely surrounded by water.

Australia, the smallest continent, is much larger than the largest island. The chief distinction between a continent and an island is the difference in size.

6. An **archipelago** is a group of islands.

7. A **peninsula** is a body of land nearly surrounded by water.

8. A **cape** is a point of land extending into the water.

A mountainous cape is called a promontory. A cape is usually much smaller than a peninsula.



NATURAL DIVISIONS OF LAND AND WATER.

- | | | | | |
|---------------|-----------------|-------------|---------------------|--------------|
| 1. Island. | 5. Isthmus. | 9. Lake. | 13. Mountain. | 17. Shore. |
| 2. Peninsula. | 6. Archipelago. | 10. Sound. | 14. Mountain Range. | 18. Cape. |
| 3. Bay. | 7. River. | 11. Hill. | 15. Table-land. | 19. Volcano. |
| 4. Strait. | 8. Delta. | 12. Crater. | 16. Plain. | 20. Sea. |

A coast or shore is the land bordering on the water. Coasts are often broken by peninsulas and capes.

9. An **isthmus** is a neck of land connecting two larger bodies of land.

Questions (I.)—1. Of what does the surface of the earth consist? How much is land? How much is water?—2. How is the land surface divided?—3. What is a continent?—4. How many continents are there? How many in the Eastern Hemisphere? Name them. How many in the Western Hemisphere? Name them.—5. What is an island?—6. What is an archipelago?—7. What is a peninsula?—8. What is a cape?—9. What is an isthmus?

(II.)—1. Which has the more land, the Northern Hemisphere or the Southern? How many times as much? The Eastern Hemisphere or the Western? How many times as much? What is meant by the land hemisphere?—4. What is meant by the Old World? What other name is given to it by some geographers? What is meant by the New World? Why so called? What other name has it?—5. How does the smallest continent compare with the largest island? What is the chief distinction between a continent and an island?—7. What is a promontory? What is the chief difference between a cape and a peninsula? What is a coast or shore? By what are coasts broken?

VII.

ELEVATIONS OF THE LAND.

1. The chief elevations of the land surface are mountains, table-lands or plateaus, and lowland plains.

Mountains and plateaus are sometimes called highlands. The height of elevations is reckoned from the surface or level of the sea.

2. A **mountain** is a very high elevation of land.

If the elevation is not very high, it is usually called a hill.

The summit of a mountain is its highest point; the base is its foot; the slopes are its sides.

3. A **range** or **chain** is a line of mountains or hills.

4. **A volcano** is a mountain which sends forth flames, melted rock, clouds of steam, ashes, or other heated substance, from an opening called a crater.

5. **A table-land or plateau** is a broad extent of high land.

Table-lands are often crossed or bordered by mountain ranges.

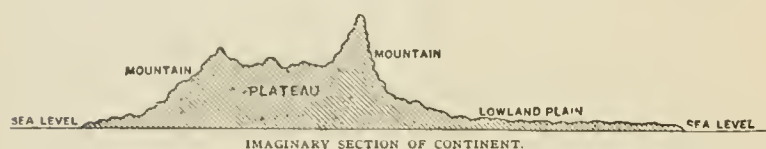
The breadth of a mountain is generally less than that of a plateau.

6. **A lowland plain** is a broad extent of land not much above the level of the sea.

A valley is land between hills or mountains. A desert is a barren tract of land. An oasis is a low fertile spot in a desert.

7. **The natural divisions** of the land are continents and islands. Their shores have peninsulas, capes, and isthmuses; their surfaces have mountains, plateaus, and lowland plains.

If we imagine a division of land to be cut through from side to side and down to the level of the sea, the outline representing the edges of such a cut is called a section.



Questions (I.)—1. Name the three chief elevations of the land.—2. What is a mountain?—3. A range or chain?—4. A volcano? A crater?—5. A table-land or plateau?—6. A lowland plain?—7. What are the natural divisions of the land? What projections have their shores? What elevations have their surfaces?

(II.)—1. What are mountains and plateaus sometimes called? From what are their heights reckoned?—2. What is a hill? What is the summit of a mountain? The base? The slopes?—3. Which is broader, a mountain or a plateau? By what are table-lands sometimes crossed or bordered?—4. What is a valley? A desert? An oasis?—5. What is a section?

VIII.

DIVISIONS OF THE WATER.

1. The waters on the surface of the earth are divided into ocean waters and drainage waters.

2. **The ocean** is the great body of salt water that surrounds all of the continents. Its five principal divisions are also called oceans: namely, the Atlantic, the Pacific, the Indian, the Arctic, and the Antarctic Oceans.

3. **A sea** is a large division of the ocean nearly enclosed by land. The ocean itself is sometimes called the sea.

4. **A gulf or bay** is a body of water in a bend of the coast.

As there is but little difference between seas, gulfs, and bays, these names are sometimes given to similar bodies of water. A haven or harbor is a small bay in which ships are safe from storms.

5. **A strait or channel** is a narrow passage connecting two larger bodies of water.

A sound is a shallow channel or bay.

6. **An ocean current** is a great stream of water flowing through the ocean.

7. **The drainage waters**, or waters on the surface of the land, are rivers and lakes.

8. **A river** is a large stream of fresh water.

A river flowing into another is called a branch or tributary. The place where a river begins or rises is its source; the place where it flows into a sea, lake, or another river is its mouth.

9. **A lake** is a body of water wholly or nearly surrounded by land.

10. **The natural divisions** of the water are oceans, rivers, and lakes. The subdivisions or arms of the ocean are called seas, gulfs, bays, sounds, straits, and channels.

Questions (I.)—1. Into what two great divisions may the waters be divided?—2. What is the ocean? To what else is the name given? Name them.—3. What is a sea? What is the ocean sometimes called?—4. What is a gulf or bay?—5. A strait or channel?—6. An ocean current?—7. Which are the drainage waters?—8. What is a river?—9. What is a lake?—10. Name the natural divisions of the water. What are the subdivisions or arms of the ocean called?

(II.)—4. What three names are sometimes given to similar bodies of water? Why? What is a haven or harbor?—5. What is a sound?—8. What name is given to a river flowing into another? What is the source of a river? The mouth?

IX.

DIVISIONS OF GEOGRAPHY.

1. Geography may be divided into Mathematical Geography, Physical Geography, and Political Geography.

2. **Mathematical Geography** is a description of the form, size, position, motions, circles, and zones of the earth, and of the relative positions of places on its surface.

3. **Physical Geography** is a description of the natural divisions of the surface of the earth.

It treats, first, of its simplest divisions into land, water, and atmosphere; second, of the position, distribution, and extent of the land and water, and of the great currents in the water and in the atmosphere; third, of the character of the climates in different parts of the earth, and the distribution of minerals, plants, and animals; and, fourth, of the laws, causes, mutual relations, and consequences of these facts, and of many of those of Mathematical Geography.

4. **Political Geography** is a description of the nations and peoples of the earth, their social condition, and the countries they inhabit.

It includes an account of towns, cities, states, industrial productions, and commerce. The Political Geography of a country is so closely dependent upon its Physical Geography that the two should be studied together.

Questions (I.)—1. How may Geography be divided?—2. What is Mathematical Geography?—3. What is Physical Geography?—4. What is Political Geography?

(II.)—3. Of what does the first part of Physical Geography treat? The second? The third? The fourth?—4. What does Political Geography include? Upon what is it dependent?

MAP-DRAWING.

TO THE TEACHER.

Map-drawing, as a branch of the study of Geography, presents itself under two aspects and as two distinct exercises.

First and most important, *Sketching*. This is an exercise by means of which the leading facts of local geography are rapidly and efficiently reviewed in the construction of quickly drawn outline maps, approximately correct, and showing the actual condition of the pupil's knowledge of the location of mountains, rivers, railways, towns, etc. The exercise is best prepared for in the class-room; it can then be gone over at home by the pupil, if thought desirable; and should finally be reviewed and repeated in the class-room as the equivalent of a recitation. An illustration of the method is given below. *It should be remembered that the chief object of this exercise is not to test the pupil's skill in map-drawing, but his knowledge of location.*

The second kind of exercise in map-drawing is that known as *Cartography*. This is much more elaborate, exact, and deliberate than sketching, and aims to present an accurate copy of some particular map. It is a valuable exercise, training the pupil to close and minute observation both of the principal and of the less important contents of the map, and to careful and artistic manipulation. The simplest and most efficient method of pursuing this exercise is illustrated in the concluding portion of this book.

Where circumstances will permit, it is advisable that the exercises in sketching should precede those in cartography. Those, however, who choose to begin with cartography, and omit sketching until a later stage, may readily do so.

SKETCHING FOR REVIEW.

Preparatory.—After the map questions relating to any state, let it be Maine, for instance, have been carefully studied, all the pupils of the class should take their slates and pencils and sketch the simple outlines of the state with the map open before them; the sketch should be drawn upon as large a scale as the size of the slate will conveniently allow.

In the first lessons it will be well to let each pupil be furnished with a slip of stiff paper or card-board, divided into equal parts, to be used in measuring. A model is furnished at the foot of this page. In the second and more important review, in which the map is to be drawn from memory, the measure should not be used. The exercise will then be a sort of free-hand drawing. The work will be quite crude in the first attempts, but with repetition, practice, and reasonable patience, very neat work can be pro-

duced. One or more of the class should draw the map on a large scale upon the blackboard.

First Step.—Teach the pupils to estimate, approximately, of course, the proportion or relation between the length of the state and its breadth, measuring in the direction of the meridians and parallels whenever possible. Let the estimate first be made by the eye only, then stated, and lastly *tested* by the measuring-slip.

Questions.—Is Maine longer from east to west or from north to south? (*North to south.*) How much longer? (*One fourth.*)

Second Step.—Lead the pupils to observe the *number* (usually four), *direction*, and *length* of the lines bounding the state, and whether they are straight or curved or otherwise. This step will usually require more time and care than any other.

Questions.—How many lines form the boundary of Maine? (*Five.*) How many of them are partly or entirely straight? In what general direction does each lie? Which is the shortest line? (*The northern.*) Which is the longer boundary, the northwestern or the western? The eastern boundary or the coast line?

Third Step.—*Draw* the outline boundary.

First draw *lightly* the line of greatest length, A A, and that of greatest breadth, B B; many states are so simple as not to require these lines. Draw the northern boundary; the northwestern; the western; the eastern; the coast. As soon as the third step is complete, it will be well to inspect the work. Do the same at the close of each succeeding step, or even after each separate item.

Fourth Step.—Sketch the *mountains*, if there are any.

Questions.—What mountains in Maine, and where are they? Draw them.

Fifth Step.—Draw the rivers, first noticing the direction of each.

Questions.—What boundary river on the north? Draw or go over it. On the east? Name the three chief rivers in the state. Draw the Penobscot. The Kennebec. The Androscoggin. Two or three chief lakes.

Sixth Step.—Locate the principal cities and towns, beginning with the capital. Use a star (*) for the capital, and a small circle or dot (o o) for the other cities and towns.

Questions.—What city is the capital? On what river? Locate it. Name and locate the largest city. What city on the Penobscot? On which side of the river? Locate it. Where is Lewiston? Biddeford? (Other cities and towns may be drawn if required.)

Seventh Step.—Draw the chief railroads.

Question.—Between or through what towns and cities is each?

A further step, involving another form of review, is to require the pupils to add initial letters to the several points drawn: *Rivers*—A. R., K. R., P. R., St. J. R., St. C. R. *Cities*—A., P., L., B.

In rapid work, the writing or printing of the full name will take too much time.



OUTLINE MAP OF THE STATE OF MAINE.



PHYSICAL WESTERN HEMISPHERE.

X.

QUESTIONS ON THE MAP.

Continents.—What two continents are in the Western Hemisphere? By what isthmus are they connected? What three oceans wash the shores of North America? Which one is on the north? On the east? On the west? What ocean bounds South America on the north and east? On the west? What ocean south?

Islands.—What large island northeast of North America? What island is east of it? What archipelago between Greenland and the continent? What island near the eastern point of North America? What group southeast? What archipelago between North and South America? Which are its two largest islands? What group north of Cuba? What group northeast? What group at the southern end of South America? What group east? What group in the Pacific Ocean near the parallel of twenty north? Of fifty north? Of forty south? What general name is given to the islands of the Pacific?

Peninsulas.—What peninsula in the northwestern part of North America? In the eastern part? In the western part? What two near the island of Cuba?

Capes.—What cape at the southern point of Greenland? At the eastern point of Newfoundland? At the southern point of California? What cape of North America is near Asia? What cape opposite? What cape is the northern point of South America? The eastern point? The southern point? The western point?

Mountains.—What chain of mountains in the western part of North America? In the eastern part? In the western part of South America? In the eastern part? On which side of South America are there many volcanoes? (See red dots on the map.) On which side of North America?

Plains and Plateaus.—What plateau in the northern part of North America? What low plain? In the central part? What high plains west of the central plain? What plateau west of the Rocky Mountains? What is the name of its southern part? What plateau in the eastern part of South America? In the northern? In the western? What plains in the southern part? North of the plateau of Guiana? South?

Seas, Gulfs, and Bays.—What bay west of Greenland? In the Arctic Plain? What gulf west of Newfoundland? South of North America? What island and two peninsulas nearly close that gulf? What sea south of the West Indian Archipelago? Between Alaska and Asia?

Straits.—What strait connects Behring Sea with the Arctic Ocean? At the entrance of Baffin Bay? Of Hudson Bay? Between Cuba and Florida? Between Tierra del Fuego and the continent?

Rivers.—What river flows through the northwestern part of the Arctic Plain? Into what ocean? What river flows into the Gulf of St. Lawrence? From what lakes? From what plain? What other river flows through that plain? Into what gulf? What branch has it? What river of North America flows into the Pacific Ocean? From what plateau? Into what ocean do the rivers of South America flow? Which is the greatest river of South America? Through what plains does it flow? What river north of the Amazon? What river in the southern part of South America?

Ocean Currents.—What current flows from the Gulf of Mexico? Across what ocean? In what direction? What current flows from Baffin Bay? What current northeast of South America? Southeast? West? What current crosses the Pacific near the Equator? Near the parallel of fifty north?

Zones.—What circle crosses the northern part of North America? In what zone is Cuba? The Sandwich Islands? The Mississippi River? In what zones is North America? South America?

XI.

REVIEW EXERCISES.

Continents.—*How bounded?*

MODEL FOR STATING BOUNDARIES.—South America is bounded on the north by the Caribbean Sea, on the east by the Atlantic Ocean, on the south by the Antarctic Ocean, and on the west by the Pacific Ocean.

North America? South America?

Islands.—*In what direction from the nearest land? By what waters surrounded?*

MODEL.—Newfoundland is east of North America, and is surrounded by the Gulf of St. Lawrence and the Atlantic Ocean.

Arctic Archipelago? Greenland? Iceland? Newfoundland? Azores? Bermuda Islands? Bahama Islands? West Indian Archipelago? Cuba? Hayti? Falkland Islands? Tierra del Fuego? New Zealand Islands? Sandwich Islands? Aleutian Islands? Oceanica?

Peninsulas.—*From what part of the continent does it project? Into what water, or between what waters?*

MODEL.—California projects from the western part of North America, between the Gulf of California on the east and the Pacific Ocean on the west.

Labrador? Florida? Yucatan? California? Alaska?

Capes.—*From what land does it project? From what part of it? Into what body of water?*

MODEL.—Cape Race projects from the eastern part of Newfoundland into the Atlantic Ocean.

Farewell? Race? St. Lucas? Prince of Wales? Gallinas? Horn? St. Roque? Blanco? East Cape?

Mountains.—*In what part of the continent are they? In what directions do they extend?*

MODEL.—Appalachian, in the eastern part of North America, extend northeast and southwest.

Appalachian? Rocky? Brazilian? Andes?

Plains and Plateaus.—*Where situated?*

MODEL.—Arctic Plain is in the northern part of North America?

Arctic Plain? The Great Plains? Central Plain? Plains of the Orinoco? Plains of the Amazon? Plains of La Plata? Arctic Plateau? Western Plateau? Mexican Plateau? Plateau of Guiana? Plateau of Brazil? Plateau of Bolivia?

Oceans.—*Of what continents does it wash the shores? or, around what pole is it?*

MODEL.—Pacific Ocean washes the western shores of North and South America; Antarctic or Southern Ocean, around the South Pole.

Arctic or Northern? Antarctic or Southern? Atlantic? Pacific?

Seas, Gulfs, and Bays.—*What coast does it indent or wash? Of what ocean or other body of water is it an arm?*

MODEL.—Hudson Bay indents the northeastern coast of North America, and is an arm of the Atlantic Ocean.

Baffin Bay? Hudson Bay? Gulf of St. Lawrence? Gulf of Mexico? Caribbean Sea? Behring Sea?

Straits.—*Between what lands? What waters does it connect?*

MODEL.—Behring Strait, between Asia and North America, connects the Arctic Ocean with Behring Sea.

Behring? Davis? Hudson? Florida? Magellan?

Rivers.—*In what continent does it rise? In what part of it? In what mountains? In what direction does it flow? Into what water?*

MODEL.—Missouri River rises in the Rocky Mountains in the western part of North America, and flows southeast into the Mississippi River.

Mackenzie? St. Lawrence? Mississippi? Missouri? Columbia? Orinoco? Amazon? La Plata?

Ocean Currents.—*In what ocean? In what part of it? In what direction does it flow?*

MODEL.—Brazilian Current, in the southwestern part of the Atlantic Ocean, flows towards the southwest.

Polar? Gulf Stream? Equatorial? Brazilian? Peruvian? Japan Stream?

WESTERN HEMISPHERE.



EXPLANATION.

Low Plains.....	
Plateaus.....	
Very High Land.....	
Volcanoes.....	
Direction of Currents.....	

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PHYSICAL EASTERN HEMISPHERE.

XII.

QUESTIONS ON THE MAP.

Continents.—What four continents are in the Eastern Hemisphere? Which three are united into one great land-mass? What isthmus between Asia and Africa? Which is the largest of these four continents? The next in size? The smallest? What ocean bounds Europe and Asia on the north? What ocean east of Asia? What three oceans border on Australia? What three continents border on the Indian Ocean? What ocean west of Europe and Africa?

Islands.—What two groups of islands are east of Asia? What archipelago southeast? What four great islands in the Malaysian Archipelago? What island north of Australia? South? Southeast of Africa? What group west of Europe? What island northwest? What islands in the Arctic Ocean? What islands west of Africa? Northwest? What lands in the Antarctic Ocean?

Peninsulas.—What peninsula in the northeastern part of Asia? In the eastern part? Southeastern? Southern? In the southern part of Indo-China? What island south of Hindostan? What peninsula in the southwestern part of Europe? In the northwestern part?

Capes.—What cape at the northern point of Europe? At the northern point of Asia? At the southern point of Malay Peninsula? Of Hindostan? At the eastern point of Africa? At the northern point? The western point? The southern point? Near Cape Agulhas?

Mountains.—What mountains in the southern part of Europe? Between Europe and Asia? In the southern part of Asia? For what are the Himalaya Mountains remarkable? (*They are the highest in the world.*) How high is the highest peak? (*About 5½ miles.*) What mountains near the centre of Asia? In the northern part of Africa? In the western part? In the southeastern part of Australia? What archipelago contains many volcanoes?

Plains, Plateaus, and Deserts.—What is the chief plain in Europe? What plain in the north of Asia? What plain south of the Arctic Plain? What plain in Eastern Asia? In Southern Asia? What plateau north of the Himalaya Mountains? South of the Altai? What plateau in the western part of Asia? What one southwest of the plateau of Iran? What other peninsula of Asia contains a plateau? Which continent is nearly covered by plateaus? What desert in the plateau of Mongolia? In what part of Africa is the great desert of Sahara? For what is it remarkable? (*It is the largest desert in the world.*) In what other part of Africa is there a desert?

Seas, Gulfs, and Bays.—What sea west of Kamtchatka? Of the Japan Islands? Of Corea? Of the Philippine Islands? In the Malaysian Archipelago? West of Hindostan? Of Arabia? Between Africa and Europe? East of the British Islands? Northeast of the Mediterranean? East of the North Sea? What gulf west of Africa? East of Arabia? What bay east of Hindostan? West of Europe?

Straits.—What strait between Java and Sumatra? Between Tasmania and Australia? Between Australia and New Guinea? At the entrance of the Mediterranean Sea? At the entrance of the Red Sea? What channel between Madagascar and Africa?

Rivers.—What three rivers of Asia flow into the Arctic Ocean? What four rivers in Eastern Asia? What river flows into the Bay of Bengal? The Arabian Sea? What river of Africa flows into the Gulf of Guinea? The Atlantic Ocean? The Mediterranean Sea? What river of Europe flows into the Caspian Sea? What rivers flow into the Black Sea?

Lakes.—What lakes in South Central Africa? What two lakes in Western Asia are called seas? What lake in Australia?

Ocean Currents.—What current flows westward through the Indian Ocean? What current southwest of Africa? Northwest of Europe?

Zones.—What circle crosses the northern part of Asia? What circle crosses the desert of Sahara? What continents does it cross? What great circle crosses Borneo? What continent does it cross? What circle crosses Australia? What other continent does it cross? What circle bounds the South Frigid Zone? What lands does it cross? In what zone is Sumatra? Nova Zembla? Cape of Good Hope? The Mediterranean Sea? In what zones is Africa? Asia? Europe? Australia?

XIII.

REVIEW EXERCISES.

[For method of recitation, see XI.]

Continents.—*How bounded?*

Europe? Asia? Africa? Australia?

Islands.—*In what direction from the nearest land? By what waters surrounded?*

Japan Islands? Malaysian Archipelago? Philippine Islands? Java? Celebes? Sumatra? Borneo? New Guinea? Tasmania? Madagascar? Ceylon? British Islands? Iceland? Spitzbergen? Nova Zembla? Madeira Islands? Canary Islands? St. Helena?

Peninsulas.—*From what part of the continent does it project? Into what water, or between what waters?*

Kamtchatka? Corea? Indo-China? Malay? Scandinavian? Hindostan? Spanish?

Capes.—*From what land does it project? From what part of it? Into what body of water?*

North? Northeast? Romania? Comorin? Bon? Good Hope? Guardafui? Verde? Agulhas?

Mountains.—*In what part of the continent are they? In what direction do they extend?*

Alps? Ural? Altai? Himalaya? Atlas? Kong? Blue?

Plains, Plateaus, and Deserts.—*Where situated?*

Great Plain of Europe? Arctic Plain? Siberian Plain? Plain of China? Plain of the Ganges? Plateau of Mongolia? Plateau of Thibet? Plateau of Iran? Plateau of Arabia? Desert of Gobi? Arabian Desert? Sahara Desert?

Oceans.—*Of what continents does it wash the shores? or, around what pole is it?*

Arctic? Pacific? Antarctic? Atlantic? Indian?

Seas, Gulfs, and Bays.—*What coasts does it indent or wash? Of what ocean or other body of water is it an arm?*

Okhotsk? Japan? Yellow? China? Java? Bengal? Arabian? Red? Persian? Guinea? Mediterranean? Black? Biscay? North? Baltic?

Straits.—*Between what lands? What waters does it connect?*

Sunda? Bass? Torres? Gibraltar? Bab el Mandeb? Mozambique?

Rivers.—*In what continent does it rise? In what part of it? In what mountains? In what direction does it flow? Into what water?*

Obi? Yenisei? Lena? Amoor? Hoang Ho? Yang tse Kiang? Ganges? Cambodia? Indus? Niger? Nile? Congo? Volga? Danube? Dnieper?

Lakes.—*Where situated? What outlet has it?*

Albert Nyanza? Victoria Nyanza? Caspian Sea? Aral Sea? Eyre?

Ocean Currents.—*In what ocean? In what part of it? In what direction does it flow?*

Equatorial Current? South Atlantic Current? Gulf Stream?

EASTERN HEMISPHERE.



EXPLANATION.

Low Plains.....	
Plateaus.....	
Very High Land.....	
Volcanoes.....	•
Direction of Currents	→

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COMPARATIVE PHYSICAL GEOGRAPHY.

XIV.
THE CONTINENTS.

MAP OF THE WORLD.



1. **The Old World** has more than twice as much surface as the New World. Its line of direction, or line of greatest length, is from northeast to southwest. **The New World** extends from northwest to southeast.

2. Each of these great land-masses consists of two parts, the larger being to the north. Africa is joined to Asia by the narrow Isthmus of Suez, and South America to North America by the Isthmus of Panama.

These two isthmuses are of great commercial importance, because the principal routes connecting the commerce of the great oceans pass across them.

3. The southern continents, South America and Africa, are much alike in shape and direction.

Their similarity is somewhat like that of the two hands.

4. Each continent widens toward the north and narrows to a point at the south.

5. Nearly all the great peninsulas point in a southerly direction.

They project from the three northern continents. The principal shore-lines of the continents, nearly all of the great mountain ranges, and most of the great chains of islands lie in a southeasterly or southwesterly direction.

6. The three northern continents, North America, Europe, and Asia, are irregular in form. The three southern continents are South America, Africa, and Australia; the first two are peninsular in form.

7. The coasts of the northern continents, and particularly those of Europe, are much broken by inland seas. Those of the southern continents are nearly unbroken by peninsulas or by arms of the ocean.

Each northern continent has three great peninsulas projecting from its southern border. These peninsulas are curiously alike in some particulars: Indo-China, Greece, and Florida, at the southeast, have each a large archipelago southeast of them;

Arabia, Spain, and California, at the southwest, are very simple in form, and have no such islands; Hindostan, Italy, and the long isthmus of Central America correspond in position.

Questions (I.)—1. Which has the greater surface, the Old World or the New World? How many times as much? What is the line of direction of the Old World? Of the New World?—2. Of what does each of these land-masses consist? Which part is the larger? How is Africa joined to Asia? North America to South America?—3. In what are South America and Africa alike?—4. In what direction does each continent widen? In what direction does it narrow?—5. In what direction do nearly all the great peninsulas point?—6. Name the three northern continents. What is their form? Name the three southern continents. What is their form?—7. How do the coasts of the northern continents differ from those of the southern continents?

(II.)—2. Why are the two isthmuses of great commercial importance?—3. To what may the similarity of South America and Africa be compared?—5. Which continents have nearly all the great peninsulas? In what two directions do the principal shore-lines, mountain ranges, and island chains lie?—7. What points of resemblance have the three northern continents?

XV.

ISLANDS.

1. Nearly all the islands lie in curved chains or in groups. Some are the tops of hills or mountain ranges whose lower parts are under the sea.

2. Islands are of two kinds—continental and oceanic.

3. **Continental islands** are those lying near the continents of which they appear to have been once a part.

The principal chains of continental islands lie east and southeast of Asia and North America.

4. **Oceanic islands** are those lying far out in the ocean.

The principal chains of oceanic islands are in the Pacific Ocean.

The Azores and Bermudas are oceanic groups. St. Helena and Ascension are solitary oceanic islands.



VOLCANIC ISLAND.

Volcanic islands are those which have been raised by volcanic forces from the depths of the ocean. They have bold shores and lofty peaks, and may be either continental or oceanic. Most

of the coast islands of Asia, the Galapagos and Sandwich groups of the Pacific, and Iceland, the Azores, Cape Verde, St. Helena, and Ascension of the Atlantic, are volcanic islands.

Coral islands are those composed of coral, a limy substance formed from sea-water by certain small animals, and are found only in the warmer parts of the ocean. They are usually small and low. The Bahamas and Bermudas in the Atlantic and many oceanic chains in the Pacific are coral islands.

Questions (I.)—1. How are most islands arranged? What are some of them?—2. How many kinds of islands? What are they?—3. What are continental islands? Where are the principal chains of continental islands?—4. What are oceanic islands? Where are the principal chains?

(II.)—4. Name some oceanic islands. What are volcanic islands? What kind of shores and surfaces have they? To which class do they belong? Name some volcanic islands of the Pacific. Of the Atlantic. What are coral islands? Where found? Of what size? Name some coral islands.

XVI.

MOUNTAINS.

1. **A mountain system** is a number of nearly parallel ranges covering a wide belt of country.

2. The New World has the longest mountain system; its length is about ten thousand miles.

It has two principal divisions—the Andes chains in South America, and the Rocky Mountains and parallel chains in North America. Its highest point is in South America, and is about 25,000 feet, or $4\frac{3}{4}$ miles, above the sea.

3. **The chief system** of the Old World begins on the Atlantic shores, and extends in an irregular line to the Pacific. It is about eight thousand miles long, and is composed of many smaller systems.

Among them are the Himalaya Mountains, which are the highest in the world, the Caucasus, and the Alps. The highest point of the Himalaya Mountains is about 29,000 feet, or $5\frac{1}{2}$ miles, above the sea-level.

These two great systems are not far from the shores of the continents in which they lie. The principal systems of Africa and Australia lie near their eastern coasts.

The tops of many of the great mountain chains are always covered with snow, even in the Torrid Zone.

4. **Volcanoes** are found chiefly in mountainous islands, or in mountain ranges which are near the sea. The great lowland plains have no volcanoes.

The volcanoes of the Western Hemisphere are mostly found in its great mountain systems; those of the Eastern, in the island chains bordering the coasts of Asia. Many of the oceanic islands in the Pacific contain volcanoes. Most of the volcanoes of the world are in the Pacific Ocean or near its borders.

5. **Mountains** are of great importance: they condense a large part of the moisture that falls from the atmosphere as rain or snow; they contain the sources of nearly all

the great rivers of the globe; their cold summits temper the fierce heat of the Torrid Zone; in them are found most of the metals and other minerals so important to the well-being of man.

Questions (I.)—1. What is a mountain system?—2. Where is the longest system? How long is it?—3. Describe the chief system of the Old World. How long is it? Of what is it composed?—4. Where are volcanoes chiefly found? Where are none found?—5. State some of the uses of mountains.

(II.)—2. How many divisions has the great mountain system of America? What chains in each? Where is its highest point? How high is it?—3. Which are the highest mountains in the Old World? How high is their highest peak? What other mountains in the same system? Where are the two great systems? Where is the principal system of Africa? Of Australia? With what are the tops of many of the great mountain chains covered?—4. Where are most of the volcanoes of the Western Hemisphere found? Of the Eastern? What oceanic islands contain volcanoes? Where are most of the volcanoes of the world found?

XVII.

PLATEAUS OR TABLE-LANDS.

1. **The great plateaus of each continent** are in the same regions and lie in the same direction as the chief mountain systems.

These mountains either stand upon the plateaus or form their border walls.

2. **The chief plateau belt of North America** extends from the isthmus of Tehuantepec to the Arctic Ocean.

Its highest part, the plateau of Mexico, is from 4000 to 8000 feet above the level of the sea. The Rocky Mountains divide these plateaus into two sections: the eastern section is known as the Great Plains; the western section is covered with numerous parallel chains of mountains.

3. **The chief plateau belt of South America** extends in a band parallel with the western coast.

Its highest and widest part, the plateau of Bolivia, is more than 12,000 feet above the sea. Its edges are formed by two great chains of the Andes. In the eastern part of South America there are low and broad plateaus.

4. **The plateaus of Asia** are the highest and most extensive in the world.

The plateau of Thibet is the highest; it reaches an elevation of 16,000 feet. It is bordered on the south by the Himalayas.

5. **The plateaus of Africa** cover nearly the whole of that continent.

The highest is east of the Nile River, and is from 6000 to 7000 feet in elevation. Africa is bordered on nearly every side by mountains. The Atlas, Kong, and the ranges near the eastern coast are the principal chains.

6. **The plateaus of Australia** are comparatively low.

This continent resembles Africa in its almost unbroken coasts and mountain borders.

7. **Europe** has no large plateaus.
8. Nearly all **deserts** are plateaus.

Questions (I.)—1. Where are the great plateaus of each continent found? In what direction do they lie?—2. Where is the chief plateau belt of North America?—3. Of South America?—4. What is said of the plateaus of Asia?—5. What is said of the plateaus of Africa?—6. Of the plateaus of Australia?—7. Of Europe?—8. What is said of deserts?

(II.)—1. What relation have the mountains to the plateaus with which they are connected?—2. What name is given to the highest plateau of North America? How high is it? How do the Rocky Mountains divide these plateaus? What name is given to the eastern section? What is the character of the western section?—3. What name is given to the highest plateau of South America? How high is it? What mountains border the high plateaus of that continent? Where are its low plateaus?—4. What name is given to the highest plateau of Asia? How high is it? What mountains border it?—5. Where is the highest plateau of Africa? How high is it? How is that continent bordered? Name the principal chains.—6. In what respects does Australia resemble Africa?

XVIII.

LOWLAND PLAINS.

1. **The great lowland plains of the American continents** lie between the high plateaus and the coasts of the Atlantic Ocean, from which they are partly separated by low plateaus and mountains.

The great lowland plains of Europe and Asia lie between the high plateaus and the shores of the Arctic Ocean.

These plains are the most extensive in the world. Their greatest length is in the same direction as the principal mountain systems and the belts of plateaus. Smaller but important plains are found in other parts of these four continents.

2. **The lowland plains of Australia** lie in the central and southern portions of that continent.

The greater part of these plains is yet unexplored.

Africa has no large and important lowland plain.

3. The most fertile soil and the largest navigable rivers are found in the low plains of the Torrid and Temperate Zones.

The greater part of the population of the world, and the chief seats of civilization, are found in these plains. The most densely populated are the plains of China, of the Ganges, and the western part of the great plain of Europe.

More than one third of the population of North America inhabit its central plain.

4. The plains which border the Arctic Ocean are among the coldest regions of the globe.

Questions (I.)—1. Where are the great lowland plains of the American continents? By what are they partly separated from the Atlantic? Where are the great low plains of Europe and Asia?—2. Of Australia? Of Africa?—3. What is said of the plains of the Torrid and Temperate Zones?—4. Of those bordering the Arctic Ocean?

(II.)—1. Which are the most extensive plains in the world? In what direction is their greatest length? Are there any other important plains in these four continents?—2. What can you say of the lowland plains of Australia?—3. What are found in the plains of the Torrid and Temperate Zones? Name the most densely populated. How much of the population of North America inhabits its central plain?

XIX.

THE OCEANS.

1. **The Pacific Ocean** is about as large as all the other oceans taken together.

It is remarkable for the number of its islands and border seas; these seas are enclosed or partly enclosed by curved lines of islands.

2. **The Atlantic Ocean** is about half as large as the Pacific.

It is remarkable for the many inland seas that branch from it, and for the number of great rivers that flow into it. Its northern half is the chief theatre of the ocean commerce of the world.

3. **The Indian Ocean** is much smaller than the Atlantic.

It is remarkable for the fewness of its seas and islands, and for the violence and frequency of its hurricanes.

4. **The Arctic Ocean** is much the smallest of the oceans.

It is a part of the Atlantic rather than a separate ocean.

All the great plains border on the Atlantic and Arctic Oceans.

5. **The Antarctic or Southern Ocean** is not properly a separate ocean, but a combination of the southern parts of the three great oceans.

It is remarkable for the intensity of its cold, and for the number and size of its icebergs.

The greater part of the polar oceans, and especially the Antarctic, has never been explored.

Questions (I.)—1. What is said of the size of the Pacific Ocean?—2. Of the Atlantic?—3. Of the Indian?—4. Which is the smallest ocean?—5. Is the Antarctic Ocean a separate ocean? What is it?

(II.)—1. For what is the Pacific Ocean remarkable? By what are the border seas enclosed? Name four of the border seas of the Pacific Ocean. (See maps of hemispheres.)—2. For what is the Atlantic Ocean remarkable? What is said of its commercial importance? Name four inland seas of this ocean. Name two great rivers flowing into it from North America. Three from South America. One from Africa.—3. For what is the Indian Ocean remarkable? Name the two great bays of that ocean.—4. Of what ocean is the Arctic a part? Name the three continents surrounding it. What lands border on these two oceans?—5. For what is the Antarctic Ocean remarkable? Have the polar oceans been explored? Why?

XX.

DRAINAGE WATERS.—RIVERS.

1. **The ocean is the source** of all the waters upon the surface of the land.

The winds and the heat of the sun are constantly carrying away invisible vapor from the surface of the ocean; this forms clouds, and falls upon the land as rain or snow. This water leaves the land surface in three ways: first, the greater part is evaporated; second, a part flows directly away, forming lakes, rivers, and smaller streams; third, a part sinks into the soil, and issues again at a lower level as springs.

2. Many large rivers have their sources in the snow-covered mountains of the table-lands.

Most rivers begin at springs, and are enlarged by rains and melted snows, and by other rivers.

3. **A river system** is a river with its branches.

A basin or valley is the whole country drained by a river system.

A water-shed is the line of highest land that divides two basins.

In the United States it is sometimes called a divide.

An estuary is a broad mouth of a river. When a river enters the sea by two or more mouths, the land between the mouths is called a delta.

A cañon is a deep and narrow gorge through which a river runs.

Rapids are those parts of a river in which the current is very swift.

Falls are those parts of a river in which the water flows over a precipice. Falls of small streams are called cascades; of large rivers, cataracts.

4. The rivers in the low plains are the chief natural channels of commerce, especially since the invention of the steamboat, by means of which their swift currents may be ascended. Commerce is less expensive by water than by land.

In the hill countries, rivers whose falls or rapids interrupt navigation furnish valuable water-power for manufacturing purposes.

Some rivers overflow their banks at certain seasons, and by a rich deposit of mud fertilize the low lands through which they run.

Where rivers run through lands which are very dry during the summer, their water is sometimes used to irrigate the soil.

Questions (I.)—1. What is the source of all the waters which are on the surface of the land?—2. Where do many large rivers have their sources?—3. What is a river system? What is a basin or valley? What is a water-shed?—4. State some of the uses of rivers.

(II.)—1. How is water constantly taken from the surface of the ocean? In what form does it fall again? In how many and what ways does it leave the land surface again?—2. At what do most rivers begin? How are they enlarged?—3. What is a divide? An estuary? A delta? A cañon? What are rapids? Falls? Cascades? Cataracts?

XXI.

LAKES.—GLACIERS AND ICEBERGS.

1. **Lakes** are of two kinds—**salt** and **fresh**.

2. **A salt lake** is one that has no outlet.

Small quantities of salt are washed out of the soil by the rains, if carried to a lake having no outlet, the salt is left in the lake by the evaporation of the water.

3. The plains and plateaus of Asia have the largest salt lakes in the world.

The largest of these are the Caspian and Aral seas.

4. The plains of North America and the plateaus of Southern Africa have the largest fresh-water lakes in the world.

Their principal outlets are the St. Lawrence and Nile Rivers. Titicaca, on the plateau of Bolivia in South America, is the most elevated of the large fresh-water lakes: it is 13,000 feet above the ocean-level.

5. **Glaciers** are vast river-like fields of ice. They are formed from snow, which is solidified by the pressure of its own weight, and by melting and freezing.

They are formed in the high mountain valleys in the regions of perpetual snow. They move very slowly down the valleys—only a few rods in a year. In the Temperate Zones they are found in the highest part of the highest mountains, as in the Alps and the Himalayas. In the Frigid Zones their lower edges project into the sea; the tides and waves here wash away their bases, and the overhanging portions at last break off by their own weight and fall into the sea; they are then called icebergs.



THE ORIGIN OF AN ICEBERG.

6. **An iceberg** is a large floating fragment of an arctic or antarctic glacier.

The great glaciers of Greenland are famous for the numerous icebergs which they send off, many have been seen projecting more than 300 feet above the sea, seven eighths of their mass being under water. Icebergs are largest and most numerous in the Antarctic Ocean; they are formed in the unknown lands around the South Pole.

Questions (I.)—1. How many kinds of lakes? What are they?—2. What is a salt lake?—3. Where are the largest salt lakes in the world?—4. Where are the largest fresh-water lakes in the world?—5. What are glaciers? How are they formed?—6. What is an iceberg?

(II.)—2. How is a salt lake formed?—3. Name the two largest salt lakes.—4. What are the outlets of the largest fresh-water lakes? Which is the most elevated of the large fresh-water lakes? Where is it? How high?—5. Where are glaciers formed? Describe the origin of an iceberg.—6. What can you say of the glaciers and icebergs of Greenland? Of the Antarctic Ocean? Where are they formed?

XXII.

OCEAN CURRENTS.

1. **An ocean current** is a broad stream of water flowing through the ocean.

The great ocean currents are so connected with each other as to form a circulatory system; some of them are of great depth.

2. **Constant currents** are those that always flow in the same direction.

Some of them have been traced many thousands of miles. All the rivers in the world are insignificant when compared with some of these currents. The chief cause of ocean currents is the difference of temperature of the ocean waters in the Torrid and Frigid Zones: the warmer and lighter water flows towards the poles, an equal quantity of the cold and heavier water flowing at the same time towards the Equator. The ocean currents thus assist to cool the tropical and to warm the polar regions.

The direction and velocity of currents are modified, first, by the revolution of the earth on its axis; second, by the constant winds of the Torrid Zone; third, by being turned aside by the shores.

3. **The Equatorial Currents** are the widest and longest of the constant currents.

They are found in the Atlantic and Pacific oceans, and move from east to west.

4. The best known and most important current is the **Gulf Stream**.

It begins in a branch of the Equatorial Current of the Atlantic, sweeps around the Gulf of Mexico, and again enters the Atlantic as a swift and deep stream through the Straits of Florida. It then crosses the Atlantic in a northeasterly course, and, with the winds which sweep over its warm waters, gives a mild climate to Western Europe.

5. **The Japan Stream** is a current similar to the Gulf Stream, and passes from Japan towards Alaska and California.

6. **The Polar Currents** are the cold currents passing from the polar regions towards the Equator.

They bring vast quantities of ice from the polar regions. But little is known of the cold currents which flow at the bottom of the ocean. The ocean water at great depths in the Torrid Zone is nearly as cold as that in the Arctic Ocean.

The two broad oval spaces between the Equatorial Currents on the south and the Gulf Stream and the Japan Stream on the north are called Sargasso or Grassy seas, because covered with floating sea-weeds.

Questions (I.)—1. What is an ocean current?—2. What are constant currents?—3. Which are the greatest of the constant currents?—4. Which is the best known current?—5. Describe the Japan Stream.—6. Describe the Polar Currents.

(II.)—1. How are the ocean currents connected? What is said of their depth?—2. How far have some been traced? How do they compare with rivers? What is their chief cause? Of what use are they? How are their direction and velocity modified?—3. Where are the Equatorial Currents found? What is their general direction?—4. Describe the origin and course of the Gulf Stream. How does it affect the climate of Western Europe?—5. What do the Polar Currents bring from the polar regions? What is said of the deep cold currents? Of the deep water in the Torrid Zone? Where are the Sargasso or Grassy seas? Why so called?

XXIII.

WINDS.

1. **The atmosphere** covers the earth to a height of about fifty miles.

The upper portions of the atmosphere press upon the lower, and make them denser. Nearly all the moisture and all animal and vegetable life are found within three and a half miles of the level of the sea. Above this the thinness and dryness of the atmosphere, and the intense cold, render plant life, and consequently animal life, impossible.

The mountains of Thibet have been ascended above four miles. A balloon has reached an elevation of five and three-quarter miles. These are the greatest heights ever reached by man. In both cases the suffering was very great.

2. **Heat** causes air, first, to expand and become lighter; and, second, to absorb and render invisible large quantities of water. **Cold** produces opposite effects.

3. **The heat of the sun** produces ascending currents of hot air, particularly in the Torrid Zone; other air flows in below to fill the space.

4. **Winds** are currents of air.

The currents from the polar regions tend at first directly towards the Equator; as they pass towards and into the Torrid Zone, the revolution of the earth on its axis causes them to turn more and more towards the west: these currents are then called the Trade Winds.

5. **The Trade Winds** are constant winds between the parallels of 30° north and south latitude, and always blow from an easterly direction. They carry immense quantities of vapor from the Atlantic, Pacific, and Indian oceans.

The masses of heated air rise some miles from the surface of the earth, and flow over in two sets of currents, one towards each pole, to fill the places left vacant by the Polar Currents; they gradually cool and settle towards the surface, striking it beyond the parallels of 30°: they are then known as the Return Trade Winds, or Counter Trade Winds.

6. **The Counter Trade Winds** are the prevalent winds beyond the thirtieth parallels. In the Northern Hemisphere they blow from the southwest, and in the Southern from the northwest.

The Trade Winds and Counter Trade Winds are similar to the ocean currents both in cause and general direction.

Questions (I.)—1. To what height does the atmosphere extend?—2. What are the effects of heat upon air? Of cold?—3. What are the effects of the sun's heat? In what zone is this effect most marked? What other effect follows?—4. What are winds?—5. What and where are the Trade Winds? What is their direction? What do they carry?—6. What and where are the Counter Trade Winds? In what direction do they blow?

(II.)—1. How do the upper portions of the atmosphere affect the lower? What are found only within three and a half miles of the level of the sea? Why is there no life above this height? What are the greatest heights ever reached by man? What was the effect?—2. In what direction do the Polar Currents at first flow? In what direction afterwards? What causes this change? What are they then called?—3. Describe the course of the ascending currents of the Trade Winds. Where do they again strike the surface of the earth? What are they then called?—4. In what respects are the Trade Winds similar to the ocean currents?

XXIV. CLIMATE.

1. **The climate** of a country is the general condition of its atmosphere in regard to heat and moisture.

2. Climate depends upon distance from the Equator, elevation above the sea level, the prevailing winds and ocean currents, and distance from the sea.

3. The Frigid Zones have an intensely cold climate.

4. The low plains in and near the Torrid Zone are very hot. If they are open to the ocean winds, their climate is moist; if not, it is dry.

5. The high plateaus within and near the tropics have a mild, spring-like climate.

6. The high mountains in the same regions have their tops covered with perpetual snow.

The lower limit of perpetual snow is called the snow-line; it is of less and less elevation towards the poles.

7. Winds and ocean currents modify climate. The winds have by far the more marked effect.

When a *warm ocean wind* strikes the sides of a high mountain chain, it passes up the slope, growing colder and gradually losing its moisture in rain or snow as it ascends, and at last passes over the range and down the opposite slope as a *cold and dry wind*.

The warm and moist Return Trade Winds of the Atlantic blow upon Western Europe, and the warm waters of the Gulf Stream reach its shores; in the same latitude, the shores of Greenland and Labrador are washed by the icy waters of the arctic currents and swept by the polar winds. The one region has a mild climate, and is occupied by the most enlightened nations of the world; the others are frozen wastes, sparsely inhabited by degraded savages and a few European traders.

8. **The rain-fall** of a country is the quantity of water that falls upon it as rain or snow.

In the Torrid Zone the average annual fall is about 100 inches, but in some places in that zone it is four or five times as much. In the Temperate Zones it is from 35 to 40 inches, or little more than one third as much as in the Torrid Zone. In the Frigid Zones it is much less.

The rain-fall usually diminishes as the distance from the sea increases.

9. **The tropical rain-belt** is a broad movable belt of rain extending around the world. It is about 1000 miles wide from north to south.

The sun is vertical to a place when it is directly over that place. This can happen only in the Torrid Zone.

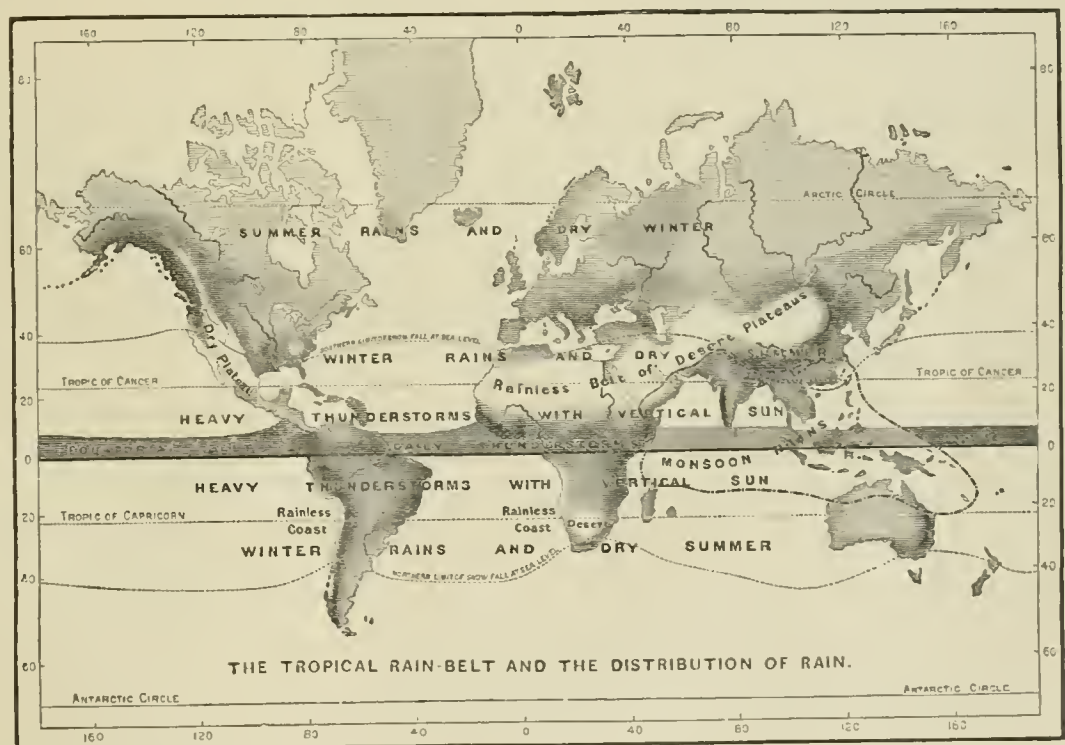
As the sun passes from one tropic to the other, the parts of the zone over which it is vertical have their greatest heat, and consequently their greatest evaporation. In those regions which are open to the Trade Winds, a heavy thunder-storm begins early in the afternoon, and continues until near sunset; the sky then becomes cloudless until the next day about the same hour. After some weeks, the sun being no longer vertical, the rains become less frequent, and at last cease for months, till the sun again returns.

The only seasons of the Torrid Zone are the wet season while under the rain-belt, and the dry season during its absence. Places near the Equator have therefore two rainy seasons and two dry seasons; other parts of the Torrid Zone have one rainy season and one much longer dry season.

The heat and moisture of the tropical rain-belt produce the most luxuriant vegetation in the world.

A great belt of deserts stretches across the Old World from the Atlantic nearly to the Pacific Ocean: it is caused by the absence of rain-bearing winds.

These rains of the Torrid Zone are called periodical rains; the more irregular ones of the Temperate Zones are called variable rains.



Questions (I.)—1. What is climate?—2. Upon what does it depend?—3. What is the climate of the Frigid Zones?—4. Of the low plains in the Torrid Zone? When is it moist? When dry?—5. Of the high plateaus in that zone?—6. Of the high mountains?—7. What effect have winds and ocean currents? Which have the greater effect?—8. What is the rain-fall of a country?—9. The tropical rain-belt? How wide is it?

(II.)—6. What is the snow-line? How does its height vary?—7. Describe the effects of high mountains upon ocean winds. What two principal causes modify the climate of Western Europe? Of Greenland and Labrador? What are the effects?—8. What is the average annual rain-fall in the Torrid Zone? In the Temperate Zones? In the Frigid Zones? What effect has distance from the sea?—9. When is a place said to have a vertical sun? In what zone can this occur? How does it affect the heat? The evaporation? Describe the tropical rains. Which are the only seasons in the Torrid Zone? What seasons at the Equator? In other parts of that zone? What effects do the heat and moisture produce? Where is the great belt of deserts? By what is it caused? What are periodical rains? Variable rains? Where do they occur?

XXV.

RACES OF MEN.

1. **The number of inhabitants** upon the earth is estimated at about 1380 millions.

2. They are divided into five great **races**—the Caucasian, the Mongol, the Ethiopian, the Malay, and the American or Indian.

3. **The Caucasian** or white race is the most widely spread. It occupies Western Asia, Europe, Northern Africa, and large parts of North and South America and Australia.

It is the most restless, intelligent, and powerful of the races, and includes all the great historic nations.

4. **The Mongol** or yellow race is found chiefly in Eastern and Northern Asia.

5. **The Ethiopian** or black race is found chiefly in Central and Southern Africa.

6. **The Malay** or brown race inhabits Southeastern Asia and most of the islands of the Great Archipelago and the Pacific.

7. **The American** or red race inhabits portions of the American Continents from Cape Horn to the Arctic Ocean.

The Caucasian and Mongol races are about equal in numbers. Together they constitute more than four fifths of the whole human family. The Ethiopian race comprises about one seventh, the Malay about one twenty-fifth, and the American about one one-hundredth of mankind.

Questions (I.)—1. What is the number of inhabitants upon the earth?—2. Into how many races are they divided? What are they?—3. Which is most widely spread? What regions does it occupy?—4. Where is the Mongol or yellow race found?—5. The Ethiopian or black race?—6. The Malay or brown race?—7. The American or red race?

(II.)—3. For what is the Caucasian race distinguished?—7. What part of mankind is comprised in each race?

POLITICAL GEOGRAPHY.

XXVI.

CONDITIONS OF SOCIETY.

1. **Nations and tribes** may be divided, in respect to their social condition, into five classes: savage, barbarous, half civilized, civilized, and enlightened.

2. **Savages** are those who live in tribes, and obtain their food by hunting and fishing.

3. **Barbarians** are those who possess flocks and herds, and practice a rude agriculture.

Those who live in tents, like the Bedouin Arabs, are called nomads.

4. **Half-civilized nations** are those that depend

chiefly upon agriculture, have made considerable advance in the mechanic arts, and have towns and cities.

5. **Civilized nations** are those that engage in commerce, practice the art of writing, and have made considerable progress in knowledge and morality.

6. **Enlightened nations** are those civilized nations that possess a thorough division of labor, have established general systems of education, and have made the greatest progress in knowledge and morality.

Many nations are partly in two or more of these classes.

The enlightened and civilized nations are nearly all Caucasian.

Questions (I.)—1. Into how many classes may nations be divided in respect to social condition? What are they?—2. What are savages?—3. What are barbarians?—4. What are half-civilized nations?—5. What are civilized nations?—6. What are enlightened nations?

(II.)—3. What are nomads? Name some nomads.—6. Does each nation belong exclusively to one of these classes? To which race do most of the civilized and enlightened nations belong?

XXVII.

GOVERNMENT.

1. The principal forms of government are the **republican** and the **monarchical**.

2. **A republic** is a country governed by men who are chosen by the people. The chief magistrate is usually called a president.

Nearly all the governments of the New World are republican.

3. **A monarchy** is a country in which one person succeeds to the chief power by inheritance, and holds it for life.

Nearly all the governments of the Old World are monarchical.

An unlimited monarchy or despotism is one in which the will of the monarch is the supreme law.

A limited monarchy is one in which the power of the ruler is limited by a system of laws called a constitution.

4. **A kingdom** is a country governed by a king or queen.

5. **An empire** is a monarchy, usually of great extent. Most empires are unlimited monarchies.

The sovereign is called an emperor, sultan, shah, czar, or mikado.

6. **The capital** of a country is the seat of its government.

7. **The metropolis** is the largest city.

Questions (I.)—1. What are the principal forms of government?—2. What is a republic? What is the title of its chief magistrate?—3. What is a monarchy?—4. What is a kingdom?—5. An empire? Is it limited or unlimited?—6. What is the capital of a country?—7. The metropolis?

(II.)—2. What is the form of most of the governments of the New World?—3. Of the Old World? What is an unlimited monarchy? What is a limited monarchy?—5. What title has the sovereign of an empire?



A POLAR SCENE.

PHYSICAL

NORTH AMERICA.

[For Section XXVIII., see page 21.]

XXIX.

DESCRIPTION.

SCENE IN CENTRAL AMERICA.

1. **The surface of North America** is naturally divided into four parts: the Western Highland, the Eastern Highland, the Low Central Plain, and the Atlantic Plain.

2. **The Western Highland**, or Great Plateau Belt, extends from the Arctic Ocean to the Isthmus of Tehuantepec. The Sierra Nevada and Cascade ranges are on its western border, and the Rocky Mountains divide it into two nearly equal parts.

These ranges are the highest in North America, and reach their greatest elevation, about 14,000 to 15,000 feet, in the broad, middle region of the table-land; the table-land itself is quite low in the north, but rises gradually to nearly 8000 feet in the plateau of Mexico. At the ends of this highland are many volcanoes. Of these, St. Elias in the north and Popocatepetl in the south are the highest peaks on the continent.

The long and mountainous isthmus of Central America may be regarded as a continuation of this plateau belt.

3. **The Eastern Highland** extends from Labrador nearly to the Gulf of Mexico. Its mountains are the low ranges of the Appalachian system.

The highest peaks are from 6000 to 6500 feet in elevation. It has very little table-land.

4. **The Atlantic Plain** is the strip of low land between the Appalachian Mountains and the ocean.

5. **The Low Central Plain** lies between the two highlands, and extends from the Arctic Ocean to the Gulf of Mexico.

It is crossed nearly midway by a low swell called the Height of Land, which divides it into two gentle and opposite slopes: the

northern slope is the Arctic Plain; nearly all of the other slope, or Southern Plain, lies in the basin or valley of the Mississippi.

Questions (I.)—1. How is the surface of North America naturally divided? Name them.—2. Where is the Western Highland? What and where are its principal mountains?—3. Where is the Eastern Highland? What mountains has it?—4. Where is the Atlantic Plain?—5. The Low Central Plain?

(II.)—2. Which are the highest ranges in North America? Where is their greatest elevation? How high are they? Describe the table-land. Where are volcanoes found? Name two. For what remarkable? What is said of Central America?—3. How high are the highest peaks of the Appalachian system? Has the Eastern Highland any table-land?—5. By what is the Low Central Plain divided? Into what? What name has each? In what basin is the southern slope?

XXX.

CLIMATE, VEGETATION, AND ANIMALS.

1. The West Indies, Central America, and a large part of Mexico have a tropical or constantly warm climate.

The season of tropical rains lasts many weeks, the rest of the year being dry.

The vegetation is luxuriant—coffee, sugar, maize, cotton, and tobacco are extensively cultivated, and the banana, pine-apple, lemon, orange, and other tropical fruits are produced with little labor. European grains are grown on the plateaus. The forests abound in mahogany, rose-wood, and palm-trees.

2. The northern third of the continent has a very cold climate, excepting a strip along the western coast.

The Polar Current passes along the eastern coast to Newfoundland.

Ice nearly closes the broad entrance to Baffin Bay, and Hudson Bay is open only about six weeks in the year.

The western coasts, from Alaska to the Columbia River, have a



PHYSICAL MAP
OF
NORTH AMERICA.

Scale of Miles
0 100 200 300 400 500 600 700 800 900 1000



EXPLANATION.

- Low Plains
- Plateaus
- Very High Land
- Volcanoes
- Direction of Currents



[For continuation of page 16, see next column.]

XXVIII.

QUESTIONS ON THE MAP.

Outlines.—What three oceans wash the shores of North America? What great island northeast of the continent? What archipelago between them? What is the general direction of the Arctic coast? What great bay breaks this coast? What island at its entrance? What strait? What bay south? What island near the eastern point of the continent? What gulf and strait cut it off? What is the general direction of the Atlantic coast? What two peninsulas partly enclose the Gulf of Mexico? What strait and what channel lead to that gulf? What island at the entrance? In what archipelago? What ocean current passes through these waters? What is the general direction of the Pacific coast? What peninsula near its northern extremity? What peninsula and gulf break the southwest shore? What long isthmus connects North and South America? Between what smaller isthmuses does it extend?

High Surface.—What two great highlands in North America? Which is the greater? What is its general direction? At what ocean does it end on the north? At what isthmus on the south? (*Tehuantepec*.) What mountains near its western border? What high plain forms its eastern part? What mountains separate this plain from the rest of the highlands? What high plateau in the southern part of the highland? What plateau basin near the centre? In what direction does the Eastern Highland extend? What mountain system does it contain? Near which coast of North America are there volcanoes? Near what river is the central group? Where is the greatest group? Where the northern? Name one in each group. What volcano in Iceland?

Lowlands and Drainage.—What plain between the two highlands? What ocean north of it? What gulf south? What name is given to its northern portion? What name to its southern portion? What low swell of land separates the Southern from the Arctic Plain? What low plateau north of the Arctic Plain? What rivers drain the Arctic Plain? What lakes connected with them? What river drains the greater part of the Southern Plain? Name its four chief branches? What chain of lakes in the Southern Plain? What river drains them? What lowland plain between the Eastern Highland and the Atlantic Ocean? Name the chief rivers which drain the Western Highland.

much milder climate and frequent rains, the effect of the warm ocean currents and counter trade-winds of the Pacific.

3. The remaining portions of the continent have a more varied climate—warm in the south, colder in the north, and very dry in the Western Highland.

Moist winds from the Gulf of Mexico and the Atlantic Ocean cause frequent rains in the Southern and Atlantic Plains and in the Eastern Highland. Excepting the prairies, these regions were originally one vast forest of oak, chestnut, pine, and other trees, of which a large part in the lowlands has been cleared away. This forest extends into the southern part of the Arctic Plain, where the trees are mostly pines and firs; farther north the trees are small, and at last disappear, and mosses and lichens are the only vegetation.

In winter the tropical rain-belt passes to the south and the counter trade-winds of the Pacific shift in the same direction (see pages 16 and 17). This gives a rainy season of several months to the region between the Pacific Ocean and the Rocky Mountains. The greater part of the moisture falls between the summits of the Sierra Nevada and the coast, and is a chief cause of the vast crops of wheat and other grains grown in that region. The moist regions in the Rocky Mountains, on the western slopes of the Sierra Nevada, and from the Columbia River to Alaska, are covered with forests of gigantic pines, cedars, and other evergreens.

4. The polar bear, reindeer, musk-ox, moose, walrus, grizzly bear, and many fur-bearing animals, are found in the northern parts of the continent, and great herds of the bison, or buffalo, roam over the high plains east of the Rocky Mountains. Among other wild animals are the deer, wolf, fox, beaver, and alligator. Great numbers of



domesticated animals, such as the horse, ox, sheep, and hog, are possessed by the civilized inhabitants; these were originally introduced from Europe.

5. Cotton is the chief production of the lowlands near the Gulf of Mexico, and maize of the central, and wheat of the northern portions of the Mississippi Valley.

The rain-fall upon the slopes of the lofty mountains bordering the Western Highland leaves but little moisture to be carried over to the table-lands; these, including those parts of the plateau of Mexico that are not visited by the tropical rain-belt, are therefore extremely dry. Though scattered trees border many of the streams, and some of the higher mountains are covered with

forests, by far the larger part of this vast region is nearly destitute of vegetation—the sage-bush and cactus are the principal plants which the parched soil produces.

Questions (I.)—1. What parts of North America have a tropical climate?—2. What parts have a cold climate? What exception to this?—3. What is the climate of the rest of the continent?—4. What wild animals are found in the Arctic Plain? In the high western plains? What other wild animals are found? What is said of domesticated animals?—5. Where is cotton the chief production? Maize? Wheat?

(II.)—1. What is said of the tropical rains? Of the vegetation? What staples are cultivated? What fruits? What grains? Name some of the forest trees.—2. How do the polar currents affect the northeastern coasts of the continent? What is the climate of the western coast north of Columbia River? Why?—3. What are the chief sources of the rains of the southeastern portions of the continent? Describe these regions. What is said of the vegetation of the Arctic Plain? What is the cause of the rainy season in the region between the Pacific Ocean and the Rocky Mountains? What is its effect? What is said of the forests of the moist regions?—5. Why is the Western Highland so dry? How does this affect the vegetation?

POLITICAL NORTH AMERICA.

XXXI.

QUESTIONS ON THE MAP.

[Capital cities are printed in Gothic type, as WASHINGTON.]

Countries.—What two countries occupy the greater part of North America? Which is farther north? What country northeast of British America? Northwest? Southwest of the United States? Southeast of Mexico? Name the countries of North America.

Danish America.—To what country in Europe does it belong? (*Denmark.*) Name its two principal islands. What is the capital of Iceland? Which is the most northern town in North America?

British America.—To what country in Europe does it belong? (*Great Britain.*) What islands off the western coast of British America? What peninsula in the eastern part? In the southeast? Name four capes of British America. What mountains in the western part?

What name is given to the greater part of British America? (*The Dominion of Canada.*) What is the capital? What two cities on the St. Lawrence River? What city in Nova Scotia?

United States.—What country north of the United States? Southwest? What gulf south? What islands southeast of Florida? Name the capes on the east coast of the United States. What cape at the southeastern point of the United States? What capes on the west coast?

What mountains west of the Sierra Nevada? What two bays on the east coast of the United States? What river flows into the Atlantic Ocean near Sandy Hook? What river between Mexico and the United States? Into what does it flow? What mountains does the Columbia break through? What lake between the Colorado and the Columbia?

What two cities near the head of Chesapeake Bay? What is Washington? (*The capital of the United States.*) What city northeast of Baltimore? Northeast of Philadelphia? Northeast of New York? At the mouth of the Mississippi? Near the mouth of the Missouri? On Lake Michigan? On the Pacific coast? On the north bank of the Ohio?

To what country does Alaska belong? What is the name of its chief river? Into what does it flow? What islands in the southern part? What town on Baranoff Island? What town on Kodiak Island?

Mexico.—What peninsula and gulf in the northwest of Mexico? What cape at the end of the peninsula? What bay west of Yucatan? What mountains in Northern Mexico? What is the capital? What volcano near it? What city east of Mexico?

Central America.—What waters wash the shores of Central America? What lake in Central America? What city in the northwest? Name the four principal islands in the West Indies. What city in Cuba?

XXXII.

REVIEW EXERCISES.

[For models, see Review of Western Hemisphere, page 9.]

Countries.—*Where is it? How bounded? What is the capital?*

MODEL.—Mexico is in the southwestern part of North America. It is bounded on the north by the United States, on the east by the Gulf of Mexico, on the south by Central America and the Pacific Ocean, on the west by the Pacific. The capital city is Mexico.

Danish America? British America? United States? Mexico? Central America?

Islands.—Arctic Archipelago? Southampton, B.? Greenland, D.? Iceland, D.? Newfoundland, B.? Bermuda Islands, B.? West Indies? Bahama Islands, B.? Jamaica, B.? Cuba, S.? Hayti, I.? Porto Rico, S.? Vancouver, B.? Queen Charlotte, B.? Baranoff, U. S.?

NOTE.—The countries to which they belong are thus indicated: Denmark, D.; Great Britain, B.; Spain, S.; United States, U. S.; Independent, I.

Peninsulas.—Labrador? Nova Scotia? Florida? Yucatan? Alaska? California?

Capes.—Farewell? Race? Sable, A.? Cod? Sandy Hook? Hatteras? Sable, S.? St. Lucas? Prince of Wales? Mendocino? Flattery?

Isthmuses.—*What countries does it connect?*

Tehuantepec? Panama? Isthmus of Central America?

Mountains.—Appalachian? Rocky? Sierra Madre? Sierra Nevada? Cascade? Coast ranges? Popocatepetl (v.)? Hecla (v.)?

Seas, Gulfs, and Bays.—Baffin? Hudson? James? St. Lawrence? Delaware? Chesapeake? Mexico? Campeachy? Honduras? Behring? Caribbean? California?

Straits.—Davis? Hudson? Belle Isle? Florida? Behring?

Rivers.—Yukon? Mackenzie? Churchill? Nelson? Severn? St. Lawrence? Hudson? Mississippi? Missouri? Arkansas? Ohio? Rio Grande? Red? Colorado? Columbia?

Lakes.—*Where situated? What outlet has it?*

Great Bear? Great Slave? Athabasca? Winnipeg? Superior? Michigan? Huron? Erie? Ontario? Great Salt? Nicaragua?

Cities and Towns.—*In what country is it? In what part of it? On or near what water?*

Reykjavik? Upernavik? Halifax? Ottawa? Montreal? Quebec? Washington? Philadelphia? Boston? New York? Baltimore? New Orleans? Cincinnati? St. Louis? Chicago? San Francisco? Mexico? Vera Cruz? Guatemala? Havana?



PHYSICAL UNITED STATES.

XXXIII.

QUESTIONS ON THE MAP.

Which half of the United States is a highland? (*The western half*.) What smaller highland in the eastern half? (See Physical Map of North America.) What plain east of this highland? What plain between the two highlands? What great river drains the Central Plain? Name its chief branches. Which branch rises in the Eastern Highland? What branch has it? Which branches rise in the Western

Highland? Name the great lakes in the northern part of the Central Plain. Where are the prairie regions?

What plains in the eastern part of the Western Highland? What rivers cross the Great Plains? What name have they in the south? (*Llano Estacado, or Staked Plain.*) What belt in the north?

What mountain system crosses the Western Highland from north to south near its centre? What mountains near its western border? What two plateaus between these systems? What cross-range separates them? What large lake in the Great Basin? (Why is it salt?) What river drains

the northern plateaus? The southern? What lowland basin west of the Sierra Nevada?

What are the staple agricultural productions in the southern part of the Central Plain? In the central part? In the northern part? What minerals and metals are found in the Eastern Highland? In the Western Highland? On the shores of Lake Superior? In the central part of the Central Plain? Where is salt obtained? Lumber? Petroleum? Coal? Iron?

What plants characterize the dry parts of the Western Highland?

DESCRIPTION.

XXXIV.

POSITION, AREA, AND SURFACE.

1. **The United States** occupies the middle part of North America.

It extends from Canada on the north to the Gulf of Mexico on the south, and from the Atlantic Ocean to the Pacific. Its average breadth from north to south is about 1300 miles; its average length from east to west is about 2500 miles.

2. **The area** of the United States is rather more than 3,000,000 square miles, not including Alaska, which contains over 500,000 square miles.

3. **The surface** presents two nearly equal divisions of widely different character—the high western half and the low eastern half.

REMARK.—Each of these has several important and well-marked natural subdivisions, which will be made the basis for arranging the states into groups for convenience of study. (See page 39.)

Questions (1).—1. What part of North America is occupied by the United States?—2. What is the area?—3. How is the surface divided?

(11).—1. What are the northern and southern limits of the United States? The eastern and western limits? What is the average breadth? The average length?

XXXV.

WESTERN HALF OF THE UNITED STATES.

1. **The western half of the United States** is a broad highland. It is divided by the Rocky Mountains into two nearly equal sections.

2. The eastern section is a gently descending slope known as the **Great Plains**.

A large part of this region is a succession of long rolls like waves of the ocean. These plains gradually increase in elevation from the east, until at the base of the mountains they are from 5000 to 6000 feet high, or twice the average height of the Alleghanies. Excepting the Missouri and the Yellowstone, the rivers which cross these plains are too swift and too shallow to be navigated, their average fall being five feet to the mile, that of the Mississippi, Ohio, and St. Lawrence, including the Great Lakes, being only about four inches. The Red and the Arkansas are navigable in the eastern lowland.

3. The western section of the highland, known as the **Plateau Belt**, is bordered by the Rocky Mountains on the east, and on the west by the low Coast ranges of the shores of the Pacific.

Between these, and near the Coast ranges, are the high chains known as the Sierra Nevada and Cascade Mountains.

The Sierra Nevada, Cascade, and Rocky Mountains are the loftiest ranges in North America. They average from 9000 to 12,000 feet, with many peaks of over 14,000 feet.

The elevated tract within these lofty mountain walls has three principal plateaus. It is ribbed with numerous short parallel mountain chains, and has been likened to a sea filled with waves many thousand feet high.

The Great Basin occupies the central part of the Plateau Belt.

It encloses Great Salt Lake and other salt lakes which have no outlet to the ocean. It is separated from the Colorado Plateau by the lofty range of the Wahsatch Mountains, and is from 3000 to 4000 feet above the level of the sea.

The Colorado Plateau occupies the southeastern part.

It is from 6000 to 7000 feet high.

The plain of the Columbia, or Spokane Plateau, occupies the northern part.

It is about 2000 feet above the Pacific Ocean, and about 1000 feet above the Columbia River.



OUTLINE
OF THE
PHYSICAL MAP
OF THE
UNITED STATES.

1000 Square Miles.
Scale of Miles.

Rocky Mts.

Sierra Nevada
Mt. Whitney
14,500 feet
Mt. Shasta
14,400 feet
Wahatch Mts.
Pyramont Pk.
14,137 feet
Colorado R.
Cannonville
San Luis Park

THE WESTERN HIGHLANDS
THE GREAT PLAINS
THE BASIN OR VALLEY OF THE MISSISSIPPI RIVER

Arkansas R.
Osark Mts.
2,200 feet
Mississippi R.
St. Louis
Tennessee R.

Appalachian Mts.
Black Mts.
6,000 feet
Allegheny Mts.
Blue Ridge
3,400 feet
Mt. Washington
6,288 feet

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4. Three large and rapid rivers **drain** the greater part of this Plateau Belt: the Columbia River on the north breaks through the lofty Cascade range, and flows into the Pacific; the Colorado on the south reaches the Gulf of California after passing through a number of great cañons, which are a series of the most frightful mountain gorges in the world; the Rio Grande flows from the mountains bordering the Colorado Plateau through a long, narrow, and elevated valley to the Gulf of Mexico.

The beds of nearly all the rivers of the entire highland region are far below the general level of the country through which they flow.

5. **The Western Highland** has a warm and very dry climate.

The warm southwest winds from the Pacific discharge most of their moisture as rain or snow on the high cold slopes and summits of the Sierra Nevada and Cascade ranges, and much of the remaining portion upon the lofty sides and tops of the Rocky Mountains. The plateaus are consequently dry and barren, while the coast regions have abundant rain and, particularly towards the north, are covered with dense forests. In like manner, the winds from the Atlantic and the Gulf of Mexico lose their moisture before they penetrate so far inland, and in consequence a large part of the Great Plains at the foot of the Rocky Mountains is one of the most desolate and arid regions of the continent. The cactus and the sage-bush are the characteristic vegetation; they indicate a very dry climate. Wherever the streams from the melting snows of the mountains can be used for irrigation abundant crops can be raised, but the greater part of the entire highland is hopelessly barren.

6. **The chief wealth** of the Western Highland is in the exhaustless mines of gold, silver, and other valuable minerals with which the entire mountain district abounds.

Nowhere else on the globe is there known to be so extensive a deposit of the precious metals. There are hundreds of thousands of square miles rich with ores of gold and silver.

7. The most remarkable animal is the bison, or American buffalo.

Vast herds of these animals, sometimes numbering scores of thousands, still roam the Great Plains, feeding on the short dried buffalo-grass, the growth of the brief spring rains. They are eagerly hunted for their skins, and must ere long be exterminated.

8. Between the Western Highland and the Pacific lies the small rich lowland of the **California Basin**.

Questions (I.).—1. What is the character of the western half of the United States? By what and how is it divided?—2. What and where are the Great Plains?—3. What is the western half of the highland called? What mountains border it? What high mountains parallel and close to the Coast ranges? Where is the Great Basin? Where is the Colorado Plateau? Where is the plain of the Columbia?—4. How many great rivers drain the Plateau Belt? What is said of the Columbia? Of the Colorado? What are the cañons? Which is the third great river? What is said of most of the river beds?—5. What is the general character of the climate of the Western Highland?—6. In what is the chief wealth of the highland?—7. Which is the most remarkable animal?—8. What and where is the California Basin?

(II.).—2. What is said of a large part of the Great Plains? Where are the plains highest? How high are they? Which of their rivers are navigable? Which are not? Why?—3. Which are the highest mountains in North America? How high are they? How many principal plateaus? With what is the whole tract ribbed? To what has it been likened? What does the Great Basin enclose? By what separated from the Colorado Plateau? How high is it? How high is the Colorado Plateau? How high is the plain of the Columbia?—5. What kind of a climate has the Plateau Belt of the Western Highland? Why? The Great Plains? Why? The Coast regions? Why? What plants are characteristic? What do such plants indicate? What is said of irrigation? What is the source of the water that may be used for this purpose? What portion of the region is barren?—6. What is said of the quantity of gold and silver?—7. What is said of the buffaloes and their food?

XXXVI.

EASTERN HALF OF THE UNITED STATES.

1. **The eastern half** of the United States presents a strong contrast to the western half. It is fertile and well watered throughout.

It contains the Eastern Highland and two important lowland plains.

2. **The Eastern Highland** is small and low in comparison with the Western.

It consists of the several parallel ranges of the Appalachian system, and extends from the Dominion of Canada almost to the Gulf of Mexico. Its highest peaks are about as high as the plains at the foot of the Rocky Mountains. It contains many fertile elevated valleys, but no extensive plateaus.

This highland is rich in water-power and in mines of coal and iron. At its nearest approach to the Atlantic coast it is intersected by a remarkable depression, which contains the valleys of the Hudson and the Mohawk, and forms the most important natural highway of commerce on the whole continent.

3. The Eastern Highland divides the lowlands into two unequal plains—the Atlantic Plain on the east, and the Great Central or Mississippi Plain on the west.

4. **The Great Central Plain** lies between the two highlands.

It extends from the Gulf of Mexico, where it joins the Atlantic Plain, to the Great Lakes, where it unites with a narrow belt of lowland in the St. Lawrence Valley.

The Valley of the Mississippi includes not only most of the Great Central Plain, but all of the land between the crests of the Rocky Mountains on one side and those of the Alleghanies on the other. It therefore embraces a large part of both highlands. It has been likened to a broad trough, the Mississippi lying in the lowest part.

5. **The Mississippi and its branches** together constitute the most extensive system of navigated rivers in the world.

The Amazon system, in South America, is larger, but is as yet but little navigated.

The Missouri is by far the most important of the tributaries, being longer than the entire course of the Mississippi itself, and, like it, navigable almost to its source.

6. The Atlantic Plain is a long belt of lowland between the Eastern Highland and the ocean.

It is widest at the south, but narrows rapidly towards the mouth of the Hudson River, where it almost disappears. Farther east it again widens to the Gulf of St. Lawrence.

The rivers of the Atlantic Plain cross it at right angles to the line of the highland, in which they have their sources.

Most of them are navigable till interrupted by falls or rapids at some distance from the sea. These falls furnish valuable water-power, and have determined the location of many important cities.

The Atlantic Plain is drained by numerous short, separate, and parallel rivers, and all the rest of the country by a few great river systems.

7. The climate of the low eastern half of the United States is in general much cooler than that of the Western Highland in the same latitude.

Frequent rains are brought at all seasons by the moist winds from the Gulf of Mexico, the Atlantic, and the Great Lakes. The rain-fall on the Atlantic coast increases towards the south; on the Pacific coast towards the north; Lower California in Mexico is almost rainless. The winters of the eastern half are long and severe in the north, but mild in the south; the summers are generally hot.

8. The fertile soil, warm summers, abundant rains, and great range of latitude make the eastern half of the United States, in the quantity, variety, and value of its agricultural productions, the richest large section of the globe inhabited by a single nation.

The value of these advantages is greatly increased by the other physical conditions already considered. The average fall of the Mississippi, the Missouri, and their chief branches in the Central Plain, is only about four inches to the mile; that of the St. Lawrence, including the Great Lakes, is still less: this opens the whole region to steam navigation. The generally level face of the country makes it easy to construct railroads, canals, and common roads. Of railways there were at the close of 1879 more than 86,000 miles in operation, or two thirds as many as in all the rest of the world. It will therefore be seen that—

9. The physical geography of the eastern half of the United States gives it agricultural and commercial advantages unequalled by those of any other country on the globe.

10. The eastern half of the United States may be divided into two regions differing remarkably in vegetation, in consequence of difference in rain-fall.

Dense forests cover the Atlantic Plain, the Eastern Highland, and the neighboring parts of the Great Central Plain, except where cleared for the purpose of cultivation.

If from Toledo on Lake Erie two lines be drawn, one to Galveston on the Gulf of Mexico, and the other to the head-waters of the Red River of the North, nearly all the forests in the United States east of the Cascade Mountains will be east of these lines.

The southern portions of both plains constitute the region of abundant summer showers; without these cotton could not be cultivated. Rice, sugar-cane, Indian corn, and tobacco are also characteristic agricultural productions. (See Rain Map.)

Immense prairies occupy the rest of the Great Central Plain.

The prairie region is broad in the north and narrow in the south. It has long and frequent summer droughts. These do not pre-

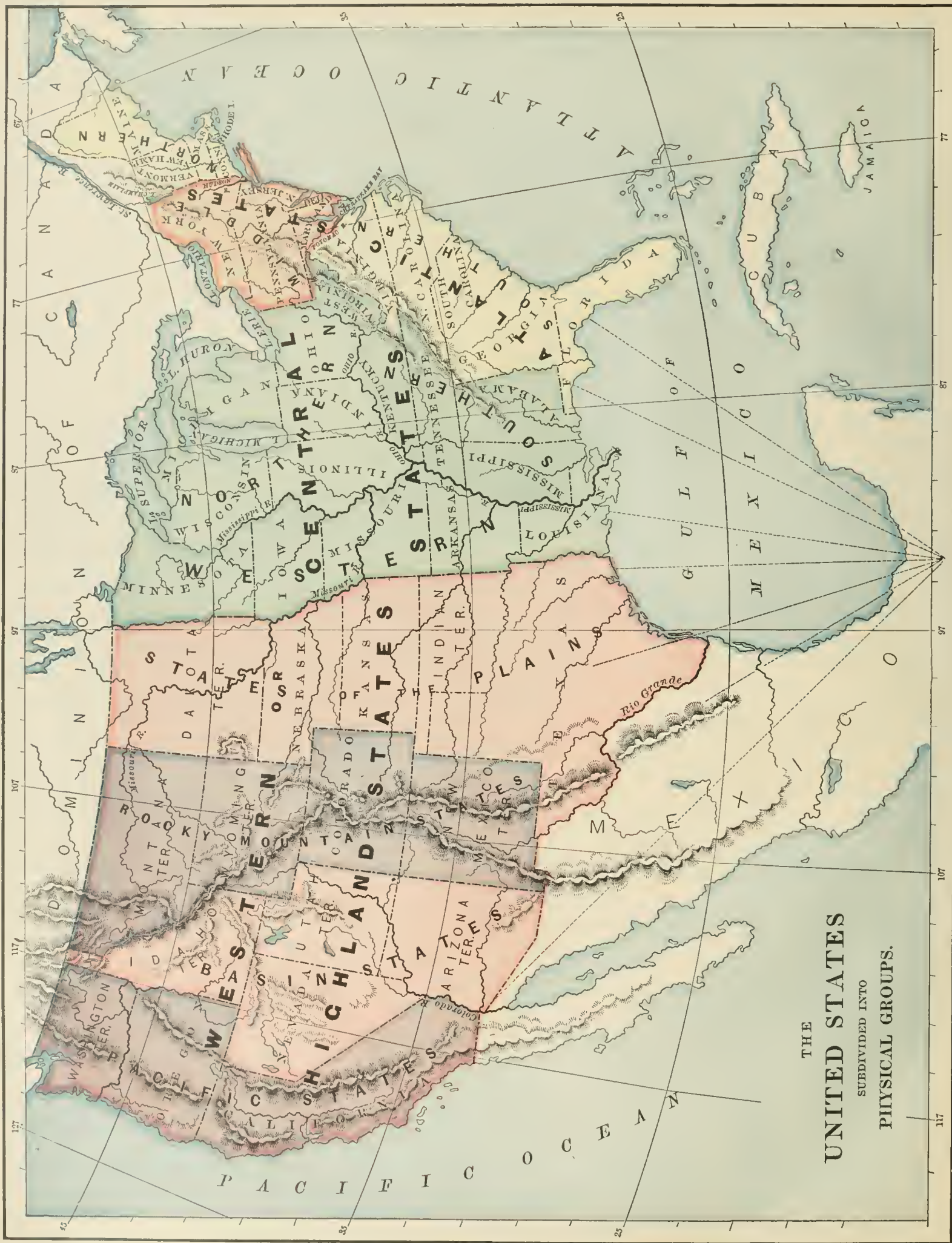


vent the extensive cultivation of wheat and other grains, which are produced in enormous quantities. The prairies are rapidly being converted into farms covered with hedge-rows, orchards, and forest trees.

11. Large wild animals, such as wolves, wild-cats, panthers, bears, and deer, once abounded. Though still found in some districts, they are greatly reduced in numbers. The country now contains millions of domesticated animals, among which are cattle, sheep, swine, and horses.

Questions (I).—1. What is the character of the eastern half of the United States? In what two particulars? What subdivisions does it contain?—2. How does the Eastern Highland compare with the Western? In what is it remarkably rich? By what is it intersected? What valleys in this depression? What does it form?—3. How does this highland divide the lowlands? What name is given to each?—4. Where is the Great Central Plain?—5. What is said of the Mississippi River? Of the Missouri River?—6. What and where is the Atlantic Plain? How do its rivers cross it?—7. What is said of the climate of the eastern half of the United States?—

[For the remaining questions on this section, see page 29.]



THE
UNITED STATES
SUBDIVIDED INTO
PHYSICAL GROUPS.

What is said of the winters? Of the summers?—8. What is said of the average fall of the Mississippi and its branches? Of the St. Lawrence? What is the effect of this? What advantage results from the level face of the country? How many miles of railways in 1879?—10. What two lines separate the treeless regions of the West from the forest regions of the East? What important production particularly depends upon frequent showers? What are the other agricultural productions? What is the form of the prairie region? What is said of its climate? What are the staple productions? What change are the prairies undergoing?

is the extent of the Great Central Plain? In what valley does it mostly lie? What else does the Mississippi Valley include? To what has it been likened?—5. What is said of the Amazon system?—6. Where is the Atlantic Plain widest? Where narrowest? What is said of the navigation of its rivers? Of what use are these falls? In what respect does the drainage of this plain differ from that of other portions of the country?—7. What cause the frequent rains in the low eastern half of the United States? In what direction does the rain-fall increase on the Atlantic coast? On the Pacific coast? What part is almost rainless?

[Questions on Section XXXVI.—Continued from page 27.]
8. What four things make it one of the richest portions of the world?—9. What is said of its agricultural and commercial advantages?—10. How may it be divided in regard to vegetation? Where are the forest regions? The prairie regions?—11. What is said of wild animals? Of domesticated animals?

(11.)—2. Of what does the Eastern Highland consist? What is its extent? What is said of its peaks? What does it contain?—4. What

POLITICAL UNITED STATES.

XXXVII.

DIVISIONS AND SUBDIVISIONS OF THE UNITED STATES.

- 1. For convenience of study, the United States may be divided into sections and groups.
- 2. This division is based upon certain facts of the physical geography of the country:

First. One half of the country is low, the other half high.
Second. The lines of the coasts, mountains, plateaus, and of the Mississippi River, lie in a general north and south direction. These lines divide the country into seven nearly parallel physical belts; two of these belts are east of the Mississippi River, and five of them are west of it.

Third. The Ohio River, the Potomac River, and the Chesapeake Bay form a well-marked line that divides the two eastern belts into groups of states which have widely different climatic, industrial, and social peculiarities.
Fourth. The northern part of the most eastern belt is again divided by the line of the Hudson River and Lake Champlain.

LOW HALF.					HIGH HALF.						
ATLANTIC STATES.			CENTRAL STATES.					WESTERN or HIGHLAND STATES.			
NORTH ATLANTIC STATES.	MIDDLE ATLANTIC STATES.	SOUTH ATLANTIC STATES.	NORTH CENTRAL STATES.	SOUTH CENTRAL STATES.	WEST CENTRAL STATES.	STATES OF THE PLAINS.	ROCKY MOUNTAIN STATES.	BASIN STATES.	PACIFIC STATES.		
1. Maine. 2. New Hampshire. 3. Vermont. 4. Massachusetts. 5. Rhode Island. 6. Connecticut.	1. New York. 2. New Jersey. 3. Pennsylvania. 4. Delaware. 5. Maryland. (<i>Dist. of Columbia.</i>)	1. Virginia. 2. North Carolina. 3. South Carolina. 4. Georgia. 5. Florida.	1. Ohio. 2. Indiana. 3. Illinois. 4. Wisconsin. 5. Michigan.	1. West Virginia. 2. Kentucky. 3. Tennessee. 4. Alabama. 5. Mississippi.	1. Minnesota. 2. Iowa. 3. Missouri. 4. Arkansas. 5. Louisiana.	1. <i>Dakota T.</i> 2. Nebraska. 3. Kansas. 4. <i>Indian T.</i> 5. Texas.	1. <i>Montana T.</i> 2. <i>Wyoming T.</i> 3. Colorado. 4. <i>New Mexico T.</i>	1. <i>Idaho T.</i> 2. Nevada. 3. <i>Utah T.</i> 4. <i>Arizona T.</i>	1. <i>Alaska.</i> 2. <i>Washington T.</i> 3. Oregon. 4. California.		

NOTE.—The groupings by threes, fours, and fives will assist in memorizing and locating. The North Atlantic States are often called the Eastern States, or New England; the Middle Atlantic States, the Middle States; the five South Atlantic States and the five South Central States, together with Arkansas, Louisiana, and Texas, the Southern States; and the rest, the Western States. Many other terms in frequent use require no explanation; as, the Gulf States, Lake States, Mississippi States, Alleghany States, Cotton States, etc.

For the sake of convenience the territories are grouped with the states in this table.

- 3. There are thirty-eight states, ten territories, and one federal district, called the District of Columbia.
All but seven of the states are in the low half.
All the territories are in the high half.
- NOTE.—The District of Columbia covers only 70 square miles, and is not represented on the map.

Questions.—1. How may the United States be divided?—2. On what is this division based? What is the first fact? The second? How do these lines divide the country? How many of these belts are east of the Mississippi? How many west of it? What is the third fact? What further division of the most eastern belt? Which half of the country contains the greater number of states? Into what two parts may the low half be divided? Which contains one more state than the other? Into how many and what groups may the Atlantic States be divided? How many states in each? Into how many and what groups may the Central States be divided? How many states in

each? Into how many and what groups may the Western States be divided? How many states in each? Name the North Atlantic States. The Middle Atlantic. The South Atlantic. The North Central States. The South Central. The West Central. The States of the Plains. The Rocky Mountain States. The Basin States. The Pacific States.—3. How many states are there? How many territories? How many federal districts? What is it called? How many of the states are in the low half? In which half are the territories? What is a territory? (See page 86.) What large territory is not shown upon this map? (Alaska.)



QUESTIONS ON THE MAP.

What group of states lies farthest east? What is the capital of each? Where situated? Name one other city in each. Where situated? Which of these states has two capitals? Name the capital and one or two other cities in each of the Middle Atlantic States. In the South Atlantic States. In the North Central States. In the South Central. In the

West Central. In the States of the Plains. In the Rocky Mountain States. In the Basin States. In the Pacific States. Which of these cities are on or near the Atlantic Ocean? The Gulf of Mexico? On the Great Lakes? On Lake Champlain? On the Ohio River? On the Mississippi River? On the Missouri River? In or near the Rocky Mountains? Between the Rocky Mountains and the Sierra Nevada and Cascade Mountains? West of these last chains?

In what direction from Indianapolis is Louisville? Cincinnati? Pittsburgh? Cleveland? Detroit? Chicago? Milwaukee? In what direction from Chicago is Milwaukee? Davenport? St. Paul? St. Louis? Buffalo? In what direction from St. Louis is Chicago? Evansville? Memphis? Louisville? Davenport? What direction from New Orleans is Galveston? Vicksburg? Montgomery? The

Which is the largest state or territory? The

est? The most northeasterly? Southeasterly? Southwesterly? Northwesterly? Which state has the longest sea coast? Lake coast? What states are separated by the Mississippi River? By the Ohio River? Missouri River? What parallel bounds the United States on the north? (49°.) On the south? (35°.) In what longitude from Greenwich is its eastern point? Its western point? What states are crossed by the meridian of

Washington? What is the longitude of Washington? Of Boston? New York? Philadelphia? Charleston? Cincinnati? Chicago? St. Louis? New Orleans? What cities are on or near the parallel 40° N.? In what zone is the United States? What is the general direction of the rivers east of the Appalachian Mountains? Name one Atlantic river of the North Atlantic States. Name three in the

* Use longitude from Greenwich.

Middle Atlantic States. Seven in the South Atlantic. Three flowing into the Gulf of Mexico east of Mississippi River. Five west of it. Name four eastern branches of Mississippi River. Five western branches. Four southern branches of the Ohio. Three northern branches. Three western branches of the Missouri. Two branches of the Columbia. The chief branch of the Colorado. Two rivers in California. What river forms part of the boundary between Minnesota and Dakota?

XXXVIII.

REVIEW OF POLITICAL MAP OF UNITED STATES.

Bound the state. Name the capital. The largest city.

THE LOW HALF.

ATLANTIC STATES.

Capital. Largest City.

Northern Division.	1. Maine	Augusta	Portland.
	2. New Hampshire	Concord	Manchester.
	3. Vermont	Montpelier	Rutland.
	4. Massachusetts	Boston	Boston.
	5. Rhode Island	{ Providence Newport }	Providence.
	6. Connecticut	Hartford	New Haven.
Middle Division.	1. New York	Albany	New York.
	2. New Jersey	Trenton	Newark.
	3. Pennsylvania	Harrisburg	Philadelphia.
	4. Delaware	Dover	Wilmington.
	5. Maryland	Annapolis	Baltimore.
Southern Division.	1. Virginia	Richmond	Richmond.
	2. North Carolina	Raleigh	Wilmington.
	3. South Carolina	Columbia	Charleston.
	4. Georgia	Atlanta	Atlanta.
	5. Florida	Tallahassee	Key West.

CENTRAL STATES.

Northern Division.	1. Ohio	Columbus	Cincinnati.
	2. Indiana	Indianapolis	Indianapolis.
	3. Illinois	Springfield	Chicago.
	4. Wisconsin	Madison	Milwaukee.
	5. Michigan	Lansing	Detroit.
Southern Division.	1. West Virginia	Charleston	Wheeling.
	2. Kentucky	Frankfort	Louisville.
	3. Tennessee	Nashville	Nashville.
	4. Alabama	Montgomery	Mobile.
	5. Mississippi	Jackson	Vicksburg.
Western Division.	1. Minnesota	St. Paul	Minneapolis.
	2. Iowa	Des Moines	Des Moines.
	3. Missouri	Jefferson City	St. Louis.
	4. Arkansas	Little Rock	Little Rock.
	5. Louisiana	Baton Rouge	New Orleans.

THE HIGH HALF.

WESTERN or HIGHLAND STATES.

Capital. Largest City.

States of the Plains.	1. Dakota T.	Bismarck	Fargo.
	2. Nebraska	Lincoln	Omaha.
	3. Kansas	Topeka	Leavenworth.
	4. Indian T.	1961	Vinita.
	5. Texas	Austin	Galveston.
Rocky Mountain States.	1. Montana T.	Helena	Helena.
	2. Wyoming T.	Cheyenne	Cheyenne.
	3. Colorado	Denver	Denver.
	4. New Mexico T.	Santa Fé	Santa Fé.
Basin States.	1. Idaho T.	Boisé City	Boisé City.
	2. Nevada	Carson	Virginia City.
	3. Utah T.	Salt Lake City	Salt Lake City.
	4. Arizona T.	Prescott	Tucson.
Pacific States.	1. Alaska T.	1915	St. Paul.
	2. Washington T.	Olympia	Walla Walla.
	3. Oregon	Salem	Portland.
	4. California	Sacramento	San Francisco.

Mountains.—Where situated?

Appalachian? White? Adirondack? Catskill? Alleghany? Blue Ridge? Cumberland? Rocky? Wahsatch? Sierra Nevada? Cascade? Coast range?

Rivers.—Where does it rise? In what direction does it flow? Through what states? Into what body of water?

ATLANTIC SYSTEM.—St. Lawrence? Connecticut? Hudson? Delaware? Susquehanna? Potomac? James? Roanoke? Cape Fear? Santee? Savannah? Altamaha?

GULF SYSTEM.—Appalachicola? Mobile? Pearl? Mississippi? Sabine? Trinity? Brazos? Colorado? Rio Grande?

MISSISSIPPI SYSTEM.—Yazoo? Ohio? Illinois? Wisconsin? Minnesota? Des Moines? Missouri? Arkansas? Red?

OHIO SYSTEM.—Tennessee? Cumberland? Kentucky? Monongahela? Alleghany? Scioto? Wabash?

MISSOURI SYSTEM.—Yellowstone? Platte? Kansas?

PACIFIC SYSTEM.—Columbia? Willamette? Snake? Sacramento? San Joaquin? Colorado? Gila?

Lakes.—Where situated?

ST. LAWRENCE SYSTEM.—Champlain? Ontario? Erie? Huron? Michigan? Superior?

LARGEST CITIES IN THE UNITED STATES. (CENSUS OF 1880.)

Albany, N. Y.	90,758	Elizabeth, N. J.	28,229	Minneapolis, Minn.	46,887	Rochester, N. Y.	89,366
Allegheny, Pa.	78,682	Erie, Pa.	27,737	Mobile, Ala.	29,132	Salem, Mass.	27,563
Atlanta, Ga.	37,409	Evansville, Ind.	29,280	Nashville, Tenn.	43,350	San Francisco, Cal.	233,959
Baltimore, Md.	332,313	Fall River, Mass.	48,961	Newark, N. J.	136,508	Savannah, Ga.	30,709
Boston, Mass.	362,839	Fort Wayne, Ind.	26,880	New Bedford, Mass.	26,845	Scranton, Pa.	45,850
Bridgeport, Conn.	27,643	Grand Rapids, Mich.	32,016	New Haven, Conn.	62,882	Springfield, Mass.	33,340
Brooklyn, N. Y.	566,663	Harrisburg, Pa.	30,762	New Orleans, La.	216,090	St. Joseph, Mo.	32,431
Buffalo, N. Y.	155,134	Hartford, Conn.	42,015	New York, N. Y.	1,206,299	St. Louis, Mo.	350,518
Cambridge, Mass.	52,669	Hoboken, N. J.	30,999	Oakland, Cal.	34,555	St. Paul, Minn.	41,473
Camden, N. J.	41,659	Indianapolis, Ind.	75,056	Omaha, Neb.	30,518	Syracuse, N. Y.	51,792
Charleston, S. C.	49,984	Jersey City, N. J.	120,722	Paterson, N. J.	51,031	Terre Haute, Ind.	26,042
Chicago, Ill.	503,185	Kansas City, Mo.	55,785	Peoria, Ill.	29,259	Toledo, O.	50,137
Cincinnati, O.	255,139	Lawrence, Mass.	39,151	Philadelphia, Pa.	847,170	Trenton, N. J.	29,910
Cleveland, O.	160,146	Louisville, Ky.	123,758	Pittsburgh, Pa.	156,389	Troy, N. Y.	56,747
Columbus, O.	51,647	Lowell, Mass.	59,475	Portland, Me.	33,810	Utica, N. Y.	33,914
Covington, Ky.	29,720	Lynn, Mass.	38,274	Providence, R. I.	104,857	Washington, D. C.	147,293
Dayton, O.	38,678	Manchester, N. H.	32,630	Quincy, Ill.	27,268	Wheeling, W. Va.	30,737
Denver, Col.	35,629	Memphis, Tenn.	33,592	Reading, Pa.	43,278	Wilmington, Del.	42,478
Detroit, Mich.	116,340	Milwaukee, Wis.	115,587	Richmond, Va.	63,600	Worcester, Mass.	58,291



POLITICAL UNITED STATES.

XXXIX. DESCRIPTION.

1. **The United States** consists of thirty-eight states, ten territories, and a federal district.

2. **The population** in 1880 was more than 50,000,000. Over 48,000,000 were in the low and fertile eastern half of the country; and, of the remainder, about 1,400,000 were west of the Rocky Mountains.

3. **The white race** numbered about 43,500,000.

They are chiefly the descendants of emigrants from England, Ireland, and Germany. Negroes and mulattoes, the descendants of slaves brought from Africa, numbered nearly 6,500,000. Of Indians there were about 350,000; they are nearly all in the Western Highland. The Chinese numbered about 100,000.

4. **Agriculture** is the leading industry. Its chief seats are the Central and Atlantic Plains and the California Basin.

Among the principal agricultural products are the grains, which, in the order of their latitude, are rice, maize, wheat, rye, oats, and barley; maize and wheat are the most abundant. The other chief products in the same order are sugar, cotton, tobacco, hemp, hay, and potatoes; of these cotton is commercially the most important.

5. **Grazing** is an important occupation in the agricultural regions.

The prairie and the maize districts of the Central Plains furnish

large quantities of live stock, beef, pork, and wool. The chief supplies of butter and cheese are from the northern half of the Eastern Highland.

6. **Mining** is an industry of great and growing importance.

The principal mines of coal and iron are in the Eastern Highland; those of gold and silver in the mountains of the Western Highland; those of lead in Nevada, Utah, and the valley of the Upper Mississippi; and those of copper in Arizona and on the shores of Lake Superior. Agriculture, grazing, and mining supply most of the raw materials for manufactures.

7. **Manufacturing** industry has its chief seats in the states north of the Potomac and the Ohio. This is because of their abundant water-power, fuel, and labor. The principal manufactures are cotton and woollen goods, leather, tools and machinery, flour, lumber, and salt.

Fishing is a leading interest in some of the Atlantic States.

8. Commerce is of two kinds—domestic and foreign. **The domestic commerce** of the United States is the distribution within its own limits of imported articles and domestic manufactures in exchange for agricultural, grazing, mining, and forest products.

9. Three great water routes to the sea and many lines of railway are the principal channels of this commerce.

The first water route is by the Great Lakes and the St. Lawrence to the ocean.

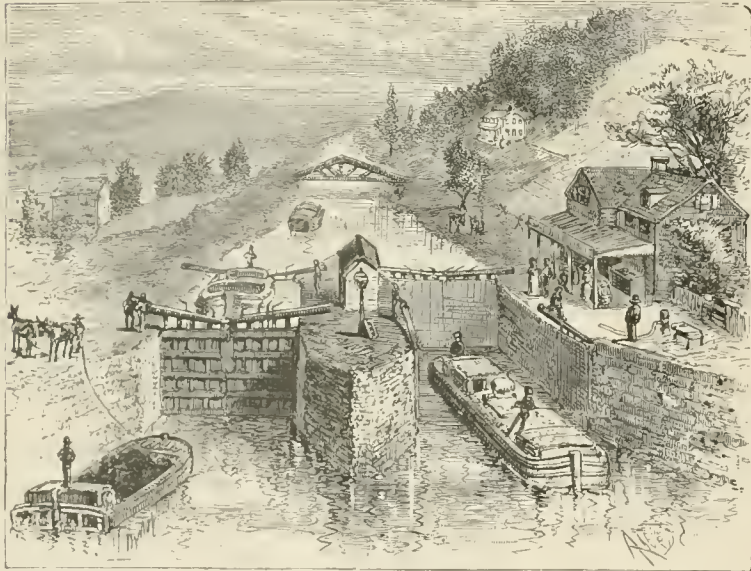
The second water route is by the Great Lakes, the Erie Canal, and the Hudson River to New York. This is the principal commercial route of the continent.

The port of New York is remarkable for the peculiar advantages of its position and for its excellent harbor. It is the chief natural doorway to the populous eastern half of the United States. It lies at the outlet of a narrow valley which is the only deep cleft and water-way entirely crossing the Appalachian Highland. By the broad and deep Hudson and the canal through the Mohawk Valley it has easy access to the group of inland seas known as the Great Lakes. By the Champlain and Hudson Canal it connects with the Lower St. Lawrence.

Through this valley the tide of emigration from Europe and the Atlantic States has rolled for more than half a century, spreading out over the fertile plains south of the Great Lakes, and changing a wilderness into the home of industrious millions. As one of the results of their industry, the commerce of this region already greatly exceeds in value the entire foreign commerce of the nation.

The third water route is by the Mississippi and its branches to New Orleans. By this route the grain, flour, pork, beef, coal, and machinery of the North find a market in the Cotton States, the West Indies, and Europe.

All these water routes radiate from or converge towards the low plains of the Upper Mississippi and its branches, so rich in grains and live stock.



CANAL AND LOCKS.

10. The railway routes are much more numerous and complicated.

The principal lake-ports, sea-ports, and other cities are connected by railroads. These railroads and their branches cover the low half of the country, and especially its northern part, like a network of iron. The navigation of the Great Lakes and the St. Lawrence is prevented for several months of each year by ice: this gives still greater importance to the railway system. Four great railroads across the Western Highland already unite the commercial system of the East with that of the Pacific coast, and others are in process of construction.

Thousands of vessels ply between the principal ports, and thus complete the means for the transportation of goods, passengers, and mails. This coasting trade is much greater than the entire foreign commerce.



LIGHT-HOUSE AND PILOT-BOATS.

At the entrance of harbors, on capes, and at dangerous shoals of the ocean and the lakes, the General Government maintains light-houses to guide and warn vessels at night.

Thousands of miles of telegraph wires convey the information by which this great commercial system is regulated, and the newspapers promptly report the state of distant markets.

Domestic commerce is the chief means by which the different parts of the United States are firmly and peaceably united through mutual interests and mutual dependence. It is itself dependent upon the physical geography of the country.

11. **Foreign commerce** is the exchange of commodities between different countries. The foreign commerce of the United States is chiefly with England, Germany, and France in Europe; with Canada, the West Indies, and Brazil in America; and with China and Japan in Asia.

12. **The principal exports** are cotton, breadstuffs, provisions, petroleum, gold, and tobacco. The greater part, especially of the cotton, goes to England. South America and the West Indies take large amounts of provisions, flour, lumber, and other manufactures.

13. **The leading imports**, and the principal countries from which they come, are dry goods from England and France, sugar from the West Indies, coffee from Brazil, hides from South America, tea from China and Japan, and iron and tin from England.

The greater part of the foreign commerce centres in the sea-ports of the northern half of the Atlantic coast; these have the best harbors. At least two thirds of all the imports and nearly one half of all the exports of the United States pass through the port of New York.

Other leading sea-ports are Boston, Baltimore, Philadelphia, New Orleans, and San Francisco.

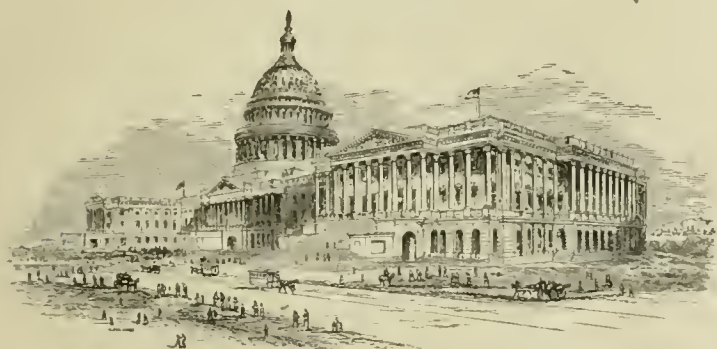
This foreign commerce is chiefly carried on by means of large steam vessels. It is in large part directed and controlled by means of several submarine telegraph lines, the cables lying upon the bed of the ocean. One line is to England by way of Newfoundland and Ireland; another is to France by way of Massachusetts and the island of St. Pierre, near Newfoundland.

Questions (I).—1. Of what does the United States consist?—2. What was the population in 1880? How distributed?—3. How many belonged to the white race?—4. What is the leading industry? Where are its chief seats? Name the grains in the order of their latitude. Which are the most abundant? Name the other chief

products in the same order. Which is the most important?—5. What is said of grazing?—6. What of mining?—7. Where are the chief seats of manufacturing industry? Why? Name the principal manufactures. Where is fishing a leading interest?—8. How many kinds of commerce? What is domestic commerce?—9. What are its principal channels? Which is the first water route? The second? What is said of it? The third? What is said of it?—10. What is said of the railway routes?—11. What is foreign commerce? With what countries in Europe is the greater part of the foreign commerce? With what countries in America? In Asia?—12. Name the principal exports. What share is taken by England? By South America and the West Indies?—13. What are the chief imports? From what countries?

(II.)—3. From whom are the white inhabitants of the United States descended? How many negroes? From whom descended? How many Indians? Where are they? How many Chinese?—5. Where are the chief supplies of animal food and of wool obtained? Of butter and cheese?—6. Where are the principal coal and iron mines? Of gold and silver? Of lead? Of copper? What industries supply the raw materials for manufactures?—9. What is said of New York? Of the valleys of the Hudson and Mohawk? Of the Champlain and Hudson Canal? Of emigration? What is one of the results? From what part of the country do the great water routes radiate?—10. What is said of the railroads? Why is the railroad system important? What is said of the railroads to the Pacific? Of the coasting trade? How does it compare with the foreign commerce? What is said of light-houses? Of telegraphs and newspapers? What is said of domestic commerce? Upon what is it dependent?—13. Where does the greater part of the foreign commerce centre? Why? What part of the imports are received at New York? Of the exports? Name other leading ports. How is the foreign commerce chiefly carried on? How is it directed and controlled? Where are the ocean cables?

XL. GOVERNMENT.



THE CAPITOL AT WASHINGTON.

1. The General Government of the United States and the several state governments are all republican, or representative, in form.

The United States is the most extensive and powerful republic in the world.

A republican government is one under which those who make the laws and those who execute them are elected for limited periods by the people.

A state is a division of the United States, controlling its own internal affairs, but united with the other states under the General Government.

A territory is a portion of the country not yet admitted as a state, because it has not sufficient population.

2. The General Government has three distinct departments—the legislative, the executive, and the judicial.

3. The legislative department, or Congress, consists of two distinct bodies—the Senate and the House of Representatives.

A law is made by the consent of both Houses and the approval of the President of the United States. If the President returns a bill without his approval, he is said to veto it; it may afterwards become a law if two thirds of each House again approve it.

4. The Senate consists of two members from each state.

The senators are chosen by the State Legislatures, and hold office for six years. Their present number is 76. The Vice-President of the United States is the presiding officer.

5. The House of Representatives consists of members chosen directly by the people of the several states.

They are the only officers of the General Government so chosen. They hold office for two years. There are at the present time 325 members, each state being entitled to one for every 151,912 of its inhabitants. The representatives elect one of their own number as presiding officer or Speaker. Each organized territory has a delegate in this House; he may take part in the discussion of all matters relating to his territory, but has no vote.

6. The President of the United States is the chief executive officer.

The President and the Vice-President are chosen by electors. The people of each state choose as many of these electors as there are members of Congress from that state. The President and the Vice-President hold office for four years. The President is commander-in-chief of the Army and the Navy. By and with the advice and consent of the Senate he appoints the judges of the Supreme Court and certain other civil and military officers, concludes peace, and makes treaties with other nations.

7. The Supreme Court, or judicial department, consists of a Chief-Justice and eight Associate Judges.

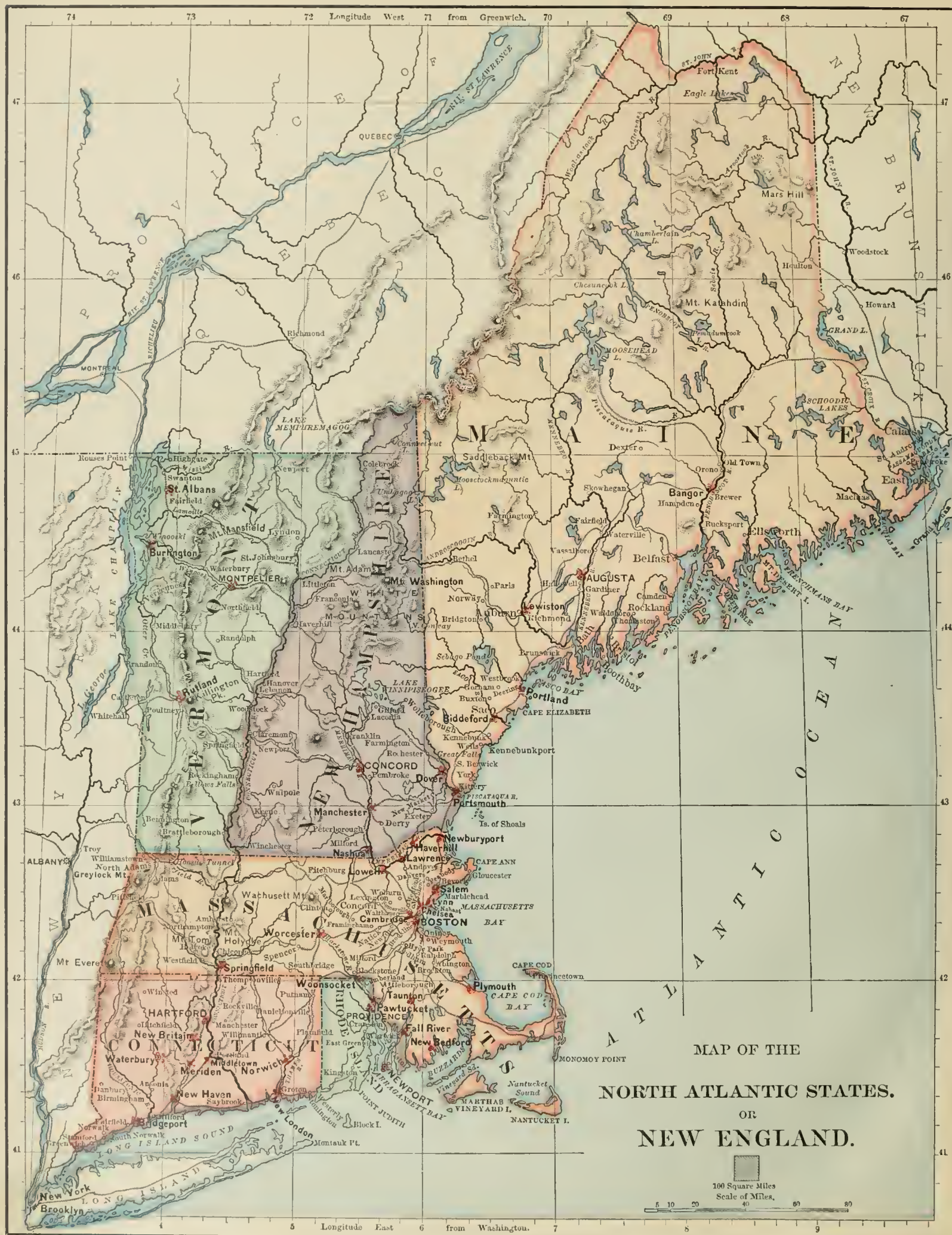
8. The complete statement of the plan or arrangement of the government is called the constitution.

9. Each state has a complete political organization or constitution, similar in most respects to that of the United States. It has a Governor elected directly by the people, a Legislature in two departments, and a Supreme Court.

Neither the General Government nor any state government can make a law which is contrary to the Constitution of the United States. An organized territory has a government similar to that of a state, except that the governor and the judges are appointed by the President of the United States.

Questions (I.)—1. What is the form of the government of the United States? Of the several state governments? How does the United States compare with other republics?—**2.** How many and what departments has it?—**3.** Of what does the legislative department consist? What are they called?—**4.** Of what does the Senate consist?—**5.** How are the members of the House of Representatives chosen?—**6.** Who is the chief executive officer?—**7.** Of what does the Supreme Court consist?—**8.** What is the Constitution of the United States?—**9.** What is said of the state governments?

(II.)—**1.** What is a republican government? What is a state? What is a territory?—**2.** How are laws made? When is a bill said to be vetoed? How may it afterwards become a law?—**3.** How are the senators chosen? For how long a time? What is their present number? Who is President of the Senate?—**5.** In what particular is the election of members of the House peculiar? How long do they hold office? How many members are there at the present time? What is the basis of representation? Who is the Speaker? What is said of territorial delegates?—**6.** By whom are the President and the Vice-President of the United States chosen? By whom are the electors chosen? How many are there? How long do the President and the Vice-President hold office? Who is the head of the Army and Navy? What other powers and duties has he?—**9.** What laws can not be made? What can you say of territorial governments?



XLI.

QUESTIONS ON THE MAP.

General.—Name the North Atlantic States. Which is the largest? Which is the smallest? Which has no sea-coast? Which has the most broken coast? What mountain system covers a large part of New England? (See Physical Map of U. S., page 25.) Which state has no mountains? In what general direction do the rivers flow? Which is the largest river? What states does it separate? What states does it cross? Which state has the greatest number of lakes?

Maine.—What river forms part of the northern boundary of Maine? Of the eastern? Of what lakes is it the outlet? Name four other principal rivers. From what lake does the Kennebec flow? What bays on the southern coast? What cape? What island? What city on Casco Bay? On the Saco River? On the Androscoggin? On the Kennebec? On the Penobscot? Which is the capital?

New Hampshire.—What mountains in the northern part of New Hampshire? What celebrated peak? What lake near the centre of the state? Which is the principal river in the state? In what state is the mouth of the Merrimac? What three cities in New Hampshire are on the Merrimac? Which is the capital? What sea-port in the south-east? At the mouth of what river? What city near the Piscataqua?

Vermont.—What parallel forms the northern boundary of Vermont? What lakes does it cross? Which of these forms part of the western boundary? In what direction do its waters flow? Through what branch of the St. Lawrence? What mountains in this state? Into what other states do they extend? Name the two highest peaks in Vermont. What town is the capital? What city on Lake Champlain? What town north of Burlington? What town southwest of Montpelier?

Massachusetts.—What two large islands belong to the state? What bay east? What two bays southeast? What three capes on the coast? What peak in the southwest? In the northwest? What two near Connecticut River? What river enters the state from New Hampshire? What cities on the Merrimac? Which of these is a sea-port? What city is the capital? What city northwest of Boston? What two cities northeast? What town on Cape Cod Bay? What city on Buzzards Bay? What city northwest of New Bedford? What city on the Connecticut? Midway between Springfield and Boston?

Rhode Island.—Name the two capitals of Rhode Island. On what island is Newport? (*Rhode.*) On what bay? What two towns north of Providence? What cape on the coast?

Connecticut.—What water south of Connecticut? What three rivers enter it from this state? What city is the capital? What two cities

on the Thames? What two on or near Long Island Sound? What city northwest of New Haven? What three cities near the centre of the state?

Voyages and Travels.—What cities, capes, rivers, and islands would you pass in a coasting voyage from Bridgeport to Providence? From Providence to Boston? Boston to the St. Croix River? Through what cities by railroad from Bridgeport to Boston by way of Springfield? By way of Providence? Boston to Bangor? Boston to St. Albans by way of Nashua?

XLII.

REVIEW EXERCISES.

States.—How bounded? What is the capital? The largest city?

States.	Area in Sq. Miles.	Population in 1880.	States.	Area in Sq. Miles.	Population in 1880.
Maine	33,040	648,936	Massachusetts ..	8,315	1,783,085
New Hampshire..	9,305	346,991	Rhode Island. .	1,250	276,531
Vermont.....	9,565	332,286	Connecticut . .	4,990	622,700

Cities and Towns.—In what part of the state? How situated?

AUGUSTA? Portland? Lewiston? Bangor? Biddeford?

CONCORD? Manchester? Nashua? Dover? Portsmouth?

MONTPELIER? Rutland? Burlington? St. Albans?

BOSTON? Lowell? Worcester? Cambridge? Fall River? Lawrence? Lynn? Springfield? Salem? New Bedford? Plymouth?

PROVIDENCE? NEWPORT? Pawtucket? Woonsocket?

HARTFORD? New Haven? Bridgeport? Norwich? Waterbury?

Islands.—Where situated?

Nantucket? Marthas Vineyard? Mount Desert?

Capes.—From what coast does it project?

Elizabeth? Ann? Cod? Monomoy? Judith?

Mountains.—Where are they?

Green? White? Mount Washington? Mount Mansfield? Mount Everett? Mount Tom? Mount Holyoke?

Bays, etc.—Where is it?

Passamaquoddy? Massachusetts? Cape Cod? Buzzards? Narragansett? Long Island Sound? Penobscot? Casco?

Rivers.—Where does it rise? In what direction does it flow? Through what states? Into what body of water?

St. John? St. Croix? Penobscot? Kennebec? Androscoggin? Merrimac? Connecticut? Thames? Housatonic?

Lakes.—Where situated? What outlet?

Moosehead? Winnipiseogee? Champlain? Grand?

NORTH ATLANTIC STATES.

XLIII.

NORTH ATLANTIC STATES, or NEW ENGLAND;
DESCRIPTION.

1. Position and area.—The North Atlantic States extend from the Atlantic Ocean to Lake Champlain and the valley of the Hudson. Their area is about two fifths of that of California.

Maine is nearly as large as the five other states taken together.

2. Surface.—The surface is generally rough, being

broken by the mountains and numerous hills of this part of the Eastern Highland.

There are two principal ridges forming the sides of the long valley of the Connecticut River. The Green Mountains, near the western border, are the only continuous range. The irregular eastern ridge contains the White Mountains, the highest in New England.

The Atlantic shores are low in the south, and bold and rugged in the east. They furnish many good harbors.

3. Lakes and rivers.—The lakes and rivers are very numerous. Some of the lakes are celebrated for their

beauty. The frequent rapids and falls render the rivers unnavigable beyond a short distance, but furnish the extensive water-power which has made New England one of the greatest manufacturing districts in the United States.

4. Climate and soil.—The winters are long and severe; the summers are short, but hot.

The soil is stony, and not very fertile, except in the valleys.

5. Agriculture.—The agricultural products are not sufficient to supply the wants of the population.

The greater part of the breadstuffs and provisions used by the people of this section is brought from the Great Central Plain. Large quantities of live stock and wool are produced.

6. Occupations.—Manufactures and commerce are the leading pursuits.

The manufactures comprise fabrics of cotton, wool, leather, metal, and wood, together with machinery, tools, and other articles in great variety.

The fire-arms, cutlery, sewing-machines, and boots and shoes of New England find a market in a large part of the civilized world. The forests of hemlock and pine, especially in the southeast of Maine, furnish valuable lumber.

7. Commerce.—The many excellent harbors, the comparative nearness to Europe, and the abundance of ship-timber have contributed to establish an extensive foreign commerce.

The domestic commerce consists in the exchange of lumber, marble, granite, ice, and manufactured articles for coal, breadstuffs, provisions, and cotton, iron, wool, and other raw materials. For this purpose Southern New England possesses more coasting vessels and more miles of railroad than any other equal area in the United States.

8. People.—The people of New England are chiefly of



RAILROAD OF MOUNT WASHINGTON.

English descent. They are distinguished for industry and intelligence, and for the general diffusion of education.

The numerous colleges, high-schools, normal and common schools are unsurpassed in excellence by any in the Union.

Massachusetts, Connecticut, and Rhode Island are the most densely peopled portion of the United States.



SHIP-BUILDING.

9. Maine.—Maine, "the Pine-tree State," is noted for its ship-building, for its trade in lumber and ice, and for its excellent harbors.

It has more good harbors than all the coast from the Chesapeake Bay to the Rio Grande.

Portland, the largest city, is at the termination of the Grand Trunk Railway of Canada, and is noted for its excellent harbor and its extensive commerce. It is the principal eastern gateway to the St. Lawrence Valley in the winter. Lewiston is largely engaged in manufacturing. Bangor is a great lumber depot. Augusta is the capital.

10. New Hampshire.—New Hampshire, "the Granite State," is remarkable for the beauty of its lakes and for the grand scenery of its mountains.

These mountains and lakes are much visited by tourists in summer. Mount Washington, the highest peak of the White Mountains, is 6288 feet high; the view from its summit is more extensive than any other east of the Mississippi. Of the lakes, Winnipiseogee, near the centre of the state, is the most beautiful.

Concord, the capital, is famous for its manufacture of coaches and wagons. Manchester, the largest city, and Nashua are noted for the manufacture of cotton and woolen goods.

The Merrimac River is said to be more extensively used for manufacturing purposes than any other river in the world.

11. Vermont.—Vermont, "the Green Mountain State," is chiefly a grazing country. It is also noted for its rich quarries of marble, soapstone, and slate.

Rutland is the largest town. Burlington, on Lake Champlain, is a great lumber market. Montpelier is the capital.

12. Massachusetts.—Massachusetts, "the Bay State," is the third in the Union in the value of its manufactures; it is also noted for its extensive fisheries.

Its area is less than one thirtieth of that of Texas. The population of the two states is nearly equal.

Boston, the capital, situated at the head of Massachusetts Bay, is the largest city in New England. In foreign commerce it ranks next after New York and New Orleans. It is the centre of a railway system which includes the Boston and Albany Railroad and many other important lines.

In the suburbs are many beautiful towns, large and small, connected with the city by railroads: such towns may be called *residential towns*, as they contain the homes of many thousands of the mercantile population of the city.

It has sometimes been called the "American Athens," on account of the excellence of its literary institutions.

Lowell, Lawrence, and Fall River, famous for cotton manufactures; Worcester, a great railroad and manufacturing centre; Cambridge, the seat of Harvard University, the oldest and richest in America; Lynn, famous for its manufacture of boots and shoes; New Bedford, the first sea-port in the world in the extent of its whale fisheries; and Springfield, containing the greatest arsenal in the United States, are among its chief cities.



A MANUFACTURING TOWN.

Plymouth is celebrated as the landing-place of the Pilgrims, who formed a settlement there in 1620.

Lexington and Concord are famous for the opening engagements of the War of the Revolution, April 19, 1775.

13. Rhode Island.—Rhode Island, the smallest state in the Union, is extensively engaged in the manufacture of cotton, wool, iron, and jewelry.

This state contains a limited supply of anthracite coal.



FISHING-SCHOONERS.

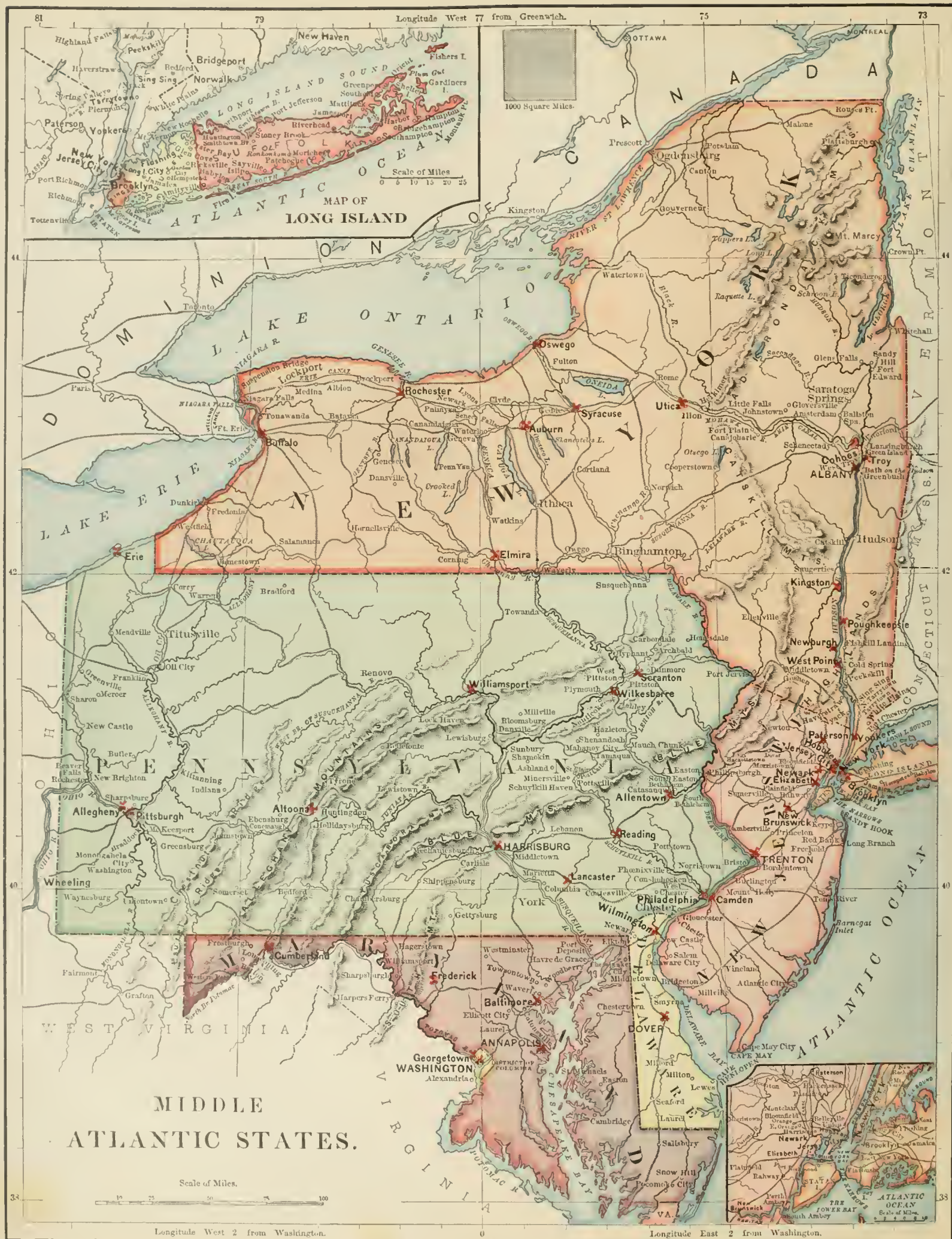
Providence, the second city in New England, is one of the capitals. Newport, the other capital, is famous as a summer resort. Pawtucket and Woonsocket are important manufacturing towns.

14. Connecticut.—Connecticut is noted for a greater variety of manufactures than any other state, and for its extensive coasting trade.

New Haven, the seat of Yale College, is the largest city. Hartford, at the head of navigation on the Connecticut, is the capital.

Questions (I.)—1. What is the position of the North Atlantic States? How do New England and California compare in size?—2. What is the character of the surface? Why?—3. What is said of the number of the lakes and rivers? For what are some of the lakes celebrated? What is the effect of the falls and rapids of the rivers? Why are they valuable?—4. What is the character of the climate? Of the soil?—5. What is said of the amount of agricultural products?—6. What are the leading pursuits?—7. What is said of the foreign commerce? Of domestic commerce? Of the number of coasting vessels? Of railroads?—8. Of what descent are the people of New England? For what are they distinguished?—9. For what is Maine noted? Portland? Of what is it the principal gateway? What is said of Lewiston? Bangor? Augusta?—10. New Hampshire? Concord? Manchester and Nashua?—11. Vermont? Rutland? Burlington? Montpelier?—12. Massachusetts? Which is the largest city in New England? What is its rank in foreign commerce? Of what is it the centre? Name one of the most important lines of railroad. Name some of the other chief cities. For what is Lowell noted? Lawrence? Fall River? Worcester? Cambridge? Lynn? New Bedford? Springfield?—13. Rhode Island? Providence? Newport? Pawtucket and Woonsocket?—14. Connecticut? New Haven? Hartford?

(II.)—1. What is the relative size of Maine?—2. What form the sides of the Connecticut Valley? Which is the only continuous range? What is said of the eastern ridge? What is the character of the surface near the Atlantic?—3. Where are the breadstuffs and provisions obtained? Name the chief grazing products.—4. Name some of the principal manufactures of New England. The forest product.—5. What is said of the colleges and schools? What is said of the population of the three smaller states?—6. What is said of the harbors of Maine?—7. What is said of the mountains and lakes? Of Mount Washington? Of Lake Winnipiscogee? Of the Merrimac River?—8. How does Massachusetts compare with Texas in area and population? What is said of the suburbs of Boston? What may these be called? What is Boston sometimes called? For what is Plymouth noted? Lexington and Concord?—9. What mineral in Rhode Island?



XLIV.

QUESTIONS ON THE MAP.

General.—Name the states of this group. Which two are the largest? Which is the smallest? What mountain system covers a large part of the group? Which state has the most mountains? Which has none? Which state has many lakes?

New York.—What two large islands belong to this state? What strait between them? What mountains in the north? The southeast? The east? What river flows into New York Bay? Its most important branch? What two rivers partly separate New York from Canada? What two lakes? Which way does Niagara River flow? What falls in that river? What lake in the southwestern part of the state? Name four lakes in the central part. What river drains them? What river west of the Oswego? What river flows into Delaware Bay? Chesapeake Bay? Ohio River? What lake forms a part of the northeastern boundary? What lake south of Lake Champlain? What city at the mouth of the Hudson? On Long Island? Name the chief cities on the Hudson. Which is the capital? What city at the mouth of the Oswego? The Mohawk? On the Genesee? Lake Erie? Near the Pennsylvania line? What two cities between Elmira and Oswego? What city east of Syracuse? What canal extends from Albany to Buffalo?

New Jersey.—What cape at the southern point of New Jersey? At the northeast point? What mountains in the northwest? What city is the capital? On what river? What city on the Delaware opposite Philadelphia? (What six cities in the northeast?)

Pennsylvania.—What parallel on the north? What river forms the eastern boundary? Name its principal branches. Name the chief mountain ranges of the state. What river crosses the state? Name its chief branches. What river in the western part? What two rivers form the Ohio? What city on the Delaware? On the Schuylkill? On the Lehigh? What two on the Susquehanna? What one on its west branch? Which is the capital? What city near Wilkesbarre? Between Harrisburg and Philadelphia? What two cities at the head of the Ohio? What one on Lake Erie? Between Pittsburgh and Harrisburg?

Delaware.—What river flows into Delaware Bay? What cape opposite Cape May? What city in the northern part of the state? What city is the capital?

Maryland.—What river separates Maryland from Virginia? What federal district on that river? What mountains in the state? In what part? What great bay divides the state into two parts? What two cities on or near the bay? Which is the capital? (What city west of Baltimore? Near the western border?)

District of Columbia.—What large city in the District of Columbia? What is Washington? What suburb has it?

Voyages and Travels.—In sailing from Troy to Brooklyn, what towns would you pass? What cities, capes, bays, etc., from Jersey City to Philadelphia? Philadelphia to Baltimore? What by railroad from New York to Washington by way of Trenton? Philadelphia to Erie? Philadelphia to Pittsburgh? Pittsburgh to Annapolis?

XLV.

REVIEW EXERCISES.

States.—How bounded? What is the capital? The largest city?

States.	Area in Sq. Miles.	Population in 1880.	States.	Area in Sq. Miles.	Population in 1880.
New York.....	49,170	5,082,871	Delaware.....	2,050	146,608
New Jersey....	7,815	1,131,116	Maryland.....	12,210	934,943
Pennsylvania...	45,215	4,282,891	Dist. of Columbia.	70	177,624

Cities and Towns.—In what part of the state? How situated?

ALBANY? New York? Brooklyn? Buffalo? Rochester? Troy? Syracuse? Utica? Auburn? Oswego? Elmira?

TRENTON? Newark? Jersey City? Paterson? Camden? Hoboken? Elizabeth?

HARRISBURG? Philadelphia? Pittsburgh? Allegheny? Scranton? Reading? Erie? Lancaster?

DOVER? Wilmington?

ANNAPOLIS? Baltimore? (Cumberland? Frederick?)

WASHINGTON? Georgetown?

Islands.—Where situated?

Long? Staten?

Capes.—From what coast does it project?

Sandy Hook? May? Henlopen?

Mountains.—Where are they?

Adirondack? Catskill? Highlands? Blue? Alleghany? Tuscarora? South?

Bays.—Where is it?

New York? Delaware? Chesapeake? Long Island Sound?

Rivers.—Where does it rise? In what direction does it flow?

Through what states? Into what body of water?

Hudson? Mohawk? Delaware? Schuylkill? Susquehanna? Alleghany? Potomac? Genesee? Monongahela? Oswego?

Lakes.—Where situated? What outlet?

George? Oneida? Cayuga? Seneca? Canandaigua? Chautauqua?

MIDDLE ATLANTIC STATES.

XLVI.

MIDDLE ATLANTIC STATES: DESCRIPTION.

1. **Area.**—The area of the Middle Atlantic States is more than twice that of New England.

2. **Surface.**—The greater part of this group, being situated within the mountain region of the Eastern Highland, has a rough surface. The principal mountain ranges are the Adirondack and the Catskill in New York, and the Blue and the Alleghany in Pennsylvania.

The mountains lie in the great forest belt; they are covered with pine, spruce, hemlock, and other evergreens in the north, and with deciduous trees in the south. The only lowlands are a narrow belt on the Great Lakes, and another on the Atlantic, connected by the valleys of the Hudson and the Mohawk.

3. **Climate.**—The winters are long and severe in the Adirondack region, but milder in the south; the summers are hot.

4. **Agriculture.**—Potatoes and all the grains except rice are produced in large quantities, but the population is so large, and so many are engaged in mining, manu-

facturing, and commerce, that all of these states except Maryland buy a large part of their breadstuffs.

5. **Minerals.**—Iron is abundant in all the states of this group except Delaware, coal in Pennsylvania and Maryland, zinc in New Jersey and Pennsylvania, salt in New York, and petroleum in Pennsylvania.

6. **Manufactures.**—In the value of its manufactured articles this group of states ranks first in the Union. The falls of the numerous rivers which drain the highland, and the abundant coal, give unusual advantages to this form of industry.

Mississippi, excluding Missouri, Iowa, and California. The common-school system is one of the best in the United States. The cataract of Niagara, in the Niagara River, is the grandest waterfall in the world. The water from the broad basin of four of the Great Lakes here falls over a precipice 164 feet high, producing a scene of wonderful sublimity.

The City of New York, sometimes called the Metropolitan City, is the richest and most populous city in America.

It is noted for its extensive commerce, the number of its magnificent hotels, banks, churches, and private dwellings, and for its Central Park. In 1880 only two cities of Europe—London and Paris—exceeded it in population.



NEW YORK FROM BROOKLYN HEIGHTS.

7. **Commerce.**—The Middle Atlantic States are the principal commercial section of the Union.

The chief routes of the vast domestic commerce of this group of states are Hudson River, the Erie Canal, the New York, Lake Erie, and Western, and the New York Central and Hudson River Railroads, in New York; Chesapeake and Delaware Bays, and the Pennsylvania Railroad in Pennsylvania; the Baltimore and Ohio Railroad in Maryland; and the New Jersey Central Railroad in New Jersey.

Into these few channels are gathered the extensive coasting trade and the immense system of railway and river lines of the West and South.

The three great bays and the excellent harbors of the Atlantic coast, the navigable rivers, and the easy access to Europe and to the rich Valley of the Mississippi and the Great Lakes, give remarkable advantages both for foreign and domestic commerce. The Hudson is navigable to Troy, the Delaware to Trenton, and the Potomac to Georgetown.

8. **New York.**—New York, "the Empire State," is the first in the Union in population, wealth, and commerce.

Its population in 1880 was more than a million greater than that of New England, and equal to that of all the states west of the

Brooklyn, the third city of the United States, is closely connected with New York by the largest suspension bridge in the world and by many short ferries. The two really constitute one great city.

There are also many other manufacturing and *residential towns* connected with New York by rivers and railroads. So numerous are these towns that the total number of inhabitants within a circle of thirty miles' radius around New York is not less than 2,500,000; the population of the city itself by day is at least 1,500,000.

Among other important places are Buffalo, on Lake Erie, the third city of the state, and Albany, the capital and fourth city; these are important depots of grains and other produce; Buffalo also supplies large quantities of the anthracite coal of Pennsylvania to the Lake States and Canada. Syracuse is noted for its salt-works; Rochester, Oswego, Troy, Utica, Auburn, and Cohoes for water-power and manufactures. The village of West Point, beautifully situated on the Hudson, is the seat of the United States Military Academy.

9. **New Jersey.**—New Jersey, lying between the great cities of New York and Philadelphia, is largely engaged in market-gardening and fruit-raising.

Newark, the largest city; Jersey City, a suburb of New

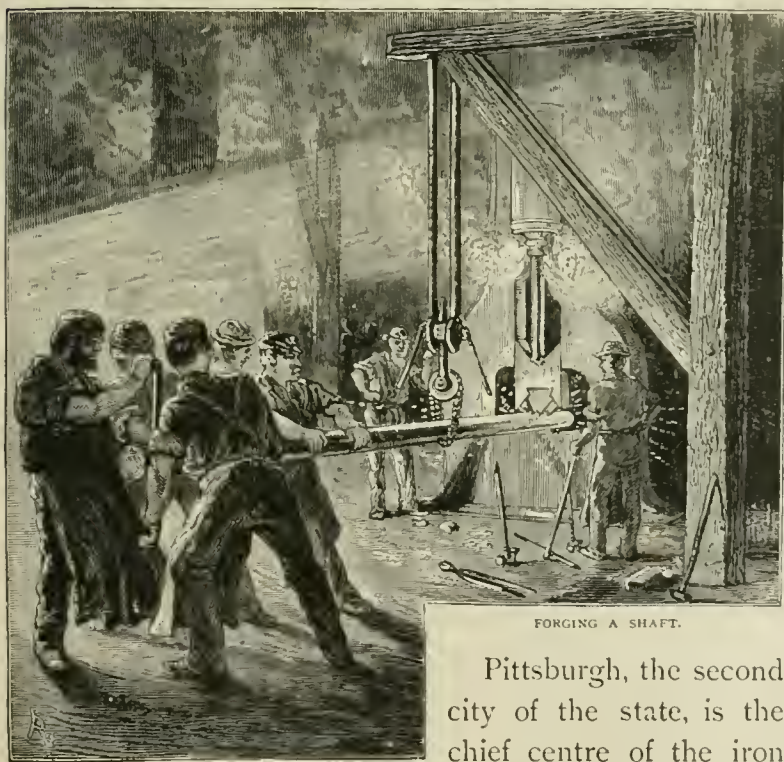
York; Paterson, at the Passaic Falls; and Trenton, the capital, are extensively engaged in manufacturing.

10. Pennsylvania.—Pennsylvania, "the Keystone State," is remarkable as the chief mining state in the Union. It produces one half of the iron, nearly all of the petroleum, and about two thirds of the coal mined in the United States.

The coal of this state, with that of Maryland, supplies domestic fuel and the steam-power of vessels, locomotives, and factories for a large part of the United States. The abundance of fuel and iron shapes the industries of its leading cities.

Philadelphia is the second city of the United States in manufactures and population, and the fifth in foreign commerce.

It also has an extensive domestic commerce, and is the greatest coal depot in America. It is noted for its Fairmount Park, its well-supplied markets, and its abundance of cheap and comfortable dwellings: it is sometimes called the "City of Homes." Its most famous public building is the State House, where the Declaration of Independence was adopted, July 4, 1776.



FORGING A SHAFT.

Pittsburgh, the second city of the state, is the chief centre of the iron

interest, and is one of the greatest petroleum markets in the world. It has a large trade with the Mississippi Valley in bituminous coal, glass, iron, and machinery. Allegheny is the third city in the state.

Scranton, Pottsville, and Wilkesbarre are large "coal" towns in the anthracite region, which has numerous railways and canals for the transportation of this product. Harrisburg is the capital.

11. Delaware.—Delaware is the smallest state in the Union except Rhode Island, and is noted for its fruit trade.

Wilmington, the chief city, is noted for the construction



COAL-MINE.

of iron ships, and for its manufacture of gunpowder and a great variety of other articles. Dover is the capital.

12. Maryland.—Maryland is noted for its mild climate, and for its production of tobacco, coal, and iron.

The peninsula between Chesapeake Bay and the Atlantic is the great peach-growing district of the United States.

Baltimore is the sixth city of the United States in foreign commerce and the seventh in population.

It has an extensive trade in tobacco, canned fruit, and oysters.

It is the terminus of a trunk railway, the Baltimore and Ohio, which connects it with St. Louis, and with Chicago and other lake-ports.

Annapolis, the capital, is the seat of the Naval School of the United States.

13. District of Columbia.—The District of Columbia, situated on the Potomac, has an area of seventy square miles. It contains Washington, the capital of the United States.

Questions (I.)—1. What is the area of this group?—2. What is the character of its surface? Why? Name the principal mountain ranges.—3. What is the character of its climate?—4. What are the agricultural products? What is said of the bread-stuffs?—5. What and where are the chief minerals?—6. What is said of the manufactures? Of the natural advantages for manufacturing?—7. What is said of the commerce? Name the principal routes. What is said of them?—8. For what is the State of New York remarkable? The City of New York? What is said of Brooklyn and the suspension bridge? For what is Buffalo noted? Albany? Syracuse? West Point? What cities are noted for water-power and manufactures?—9. What are the chief occupations in New Jersey? What cities are engaged in manufacturing? Which is the largest city? The capital?—10. For what is Pennsylvania noted? What is said of its mineral products? For what is Philadelphia noted? For what is Pittsburgh noted? Which is the third city in the state? Which are the coal-towns? What city is the capital?—11. What is the comparative size of Delaware? For what is it noted? Wilmington? What city is the capital?—12. For what is Maryland noted? What is said of the peninsula? Baltimore? Annapolis?—13. What is the area of the District of Columbia? What city does it contain?

(II.)—2. In what belt do the mountains lie? With what are they covered? Where are the lowlands?—7. What are the commercial advantages of this section? How far is the Hudson navigable? The Delaware? The Potomac?—8. What is said of the population? Of the common-school system? Of the Falls of Niagara? For what is New York City noted? What is said of its population? Of the manufacturing and residential towns?—10. Of the coal of Pennsylvania? What determines the industries of the leading cities? What is said of Philadelphia? For what is it noted? What is it sometimes called? What is its most famous public building?—11. What is said of the trade of Baltimore? Of what great railway is it the terminus?

XLVII.

QUESTIONS ON THE MAP.

General.—How many states are represented upon this map? Into what two groups may they be divided? (See page 29.) Into what do the rivers of the South Atlantic States flow? What is their general direction? Into what do the rivers of the South Central States flow? What is their general direction in the north? In the west? In the south? In what part of the South Atlantic States are the mountains? Of the South Central States? What states are partly separated by the Alleghany range? By the Cumberland range? By the Iron or Smoky Mountains? Through what states does the Blue Ridge extend? Which of these states have no mountains? What states are bounded by the Ohio River? The Mississippi? The Gulf of Mexico?

Virginia.—What great bay partly within the State of Virginia? What two capes at its mouth? What four rivers flow into that bay? What branch has the James? What river on the north? What city on the Potomac? What two cities on the James? Which is the capital? What city on the Appomattox? What two cities near the mouth of the James? What peaks in the Blue Ridge? What river between the Blue Ridge and the Alleghany Mountains? In what direction does it flow? Of what river is it a branch? What swamp in the southeastern part of the state?

North Carolina.—What cross-range connects the Iron Mountains with the Blue Ridge? What peak in the Black Mountains? For what is it remarkable? (*It is the highest point in the United States east of the Rocky Mountains.*) What two sounds on the coast of North Carolina? How are they separated from the ocean? (*By narrow sandbars and islands.*) What capes on these islands? Near what city in Virginia do these sand-bars and islands begin? Near what city in North Carolina do they end? Of what use are these sand-bars and islands? (*They protect the navigation of the entire coast of North Carolina.*) What rivers flow into these sounds? What river enters the ocean at Cape Fear? What two cities on Neuse River? On Cape Fear River? What city is west of Fayetteville? What city is the capital.

South Carolina.—Which is the principal river of South Carolina? What two branches form it? On which of these is the capital? What two rivers form the Congaree? What river north of the Santee? What river south? What city on the coast? What town northwest of Columbia?

Georgia.—What river forms the eastern boundary of Georgia? What two cities on the Savannah? What large river south of the Savannah? What rivers form the Altamaha? What city on each? What river forms a part of the western boundary? What river east of the Chattahoo-

chee? What city on the Chattahoochee? What is the capital? What city east of Atlanta?

Florida.—What small islands south of Florida? What town on one of them? What capes on the coast of Florida? What bays? What great swamp in the southern part of the state? What lake north of it? What broad river in the east? In what direction does it flow? What town near its mouth? What town northeast of Jacksonville? Southeast? What river in the northwest? What branches form it? What is the capital? What town in the northwest? On what bay?

West Virginia.—Which is the principal river of West Virginia? What river forms a part of the western boundary of this state? What city in the narrow northern part of the state? On what river? What is this narrow district sometimes called? (*The Pan-handle.*) What other town on the Ohio? What city is the capital?

Kentucky.—Name the five chief branches of the Ohio River in Kentucky. Which has its mouth opposite Cincinnati? What two towns at the mouth of the Licking? What city is the capital? What city southeast of it? What large city on the Ohio?

Tennessee.—Which are the two chief rivers in Tennessee? Through what states does the Tennessee flow? The Cumberland? What city is the capital? What two cities in East Tennessee? On what rivers? What large city on the Mississippi? (What city northeast of Memphis? What city southwest of Nashville?)

Alabama.—Name the two chief rivers of Alabama. (What town north of the Tennessee? Into what does the Mobile flow? What two branches has the Mobile? What city on Mobile Bay? What two towns on the Alabama? What branch has the Tombigbee? What city on the Black Warrior? On the Chattahoochee? What city is the capital?)

Mississippi.—Name the chief rivers of Mississippi. Of what river is the Yazoo a branch? (The Tombigbee? What other branch of the Mississippi in this state?) Into what does the Pearl River flow? What city on the Pearl? On the Tombigbee? What two on the Mississippi? What city is the capital? What town east of Jackson?)

Voyages and Travels.—What rivers, capes, and sea-ports would you pass near in a voyage from Washington to Ferdinandina? From Ferdinandina to Mobile? From Mobile by steamer to Memphis? From Memphis to Wheeling? What cities would you pass through in a journey by rail from Washington to Atlanta by way of Wilmington? From Atlanta to Vicksburg? From Vicksburg to Lynchburg by way of Chattanooga? From Cincinnati to Huntsville? From Savannah to Knoxville by way of Charleston? From Washington to Pensacola by way of Chattanooga? From Savannah to Chattanooga? From Petersburg to Nashville?

XLVIII.

REVIEW EXERCISES.

States.—How bounded? What is the capital? The largest city?

ATLANTIC STATES: SOUTHERN DIVISION.			CENTRAL STATES: SOUTHERN DIVISION.		
States.	Area in Sq. Miles.	Population in 1880.	States.	Area in Sq. Miles.	Population in 1880.
Virginia....	42,450	1,512,565	W. Virginia	24,780	618,457
N. Carolina..	52,250	1,399,750	Kentucky...	40,400	1,648,690
S. Carolina..	30,570	995,577	Tennessee...	42,050	1,512,359
Georgia.....	59,475	1,542,180	Alabama....	52,250	1,262,505
Florida.....	58,680	269,493	Mississippi..	46,810	1,131,597

Cities and Towns.—In what part of the state? How situated?

RICHMOND? Norfolk? Petersburg? Lynchburg? Alexandria? Portsmouth?

RALEIGH? Wilmington? Charlotte? New Berne? COLUMBIA? Charleston?

ATLANTA? Savannah? Augusta? Macon? Columbus? Athens?

TALLAHASSEE? Key West? Jacksonville? Pensacola? Ferdinandina? St. Augustine?

(CHARLESTON? Wheeling? Parkersburg? FRANKFORT? Louisville? Covington? Newport? Lexington?

NASHVILLE? Memphis? Chattanooga? Knoxville? Jackson?

MONTGOMERY? Mobile? Selma? Huntsville? Eu-
faula?

JACKSON? Vicksburg? Natchez? Columbus?

Capes.—From what coast does it project?

Charles? Henry? Hatteras? Lookout? Fear? Canaveral? Sable?

Mountains.—Where are they?

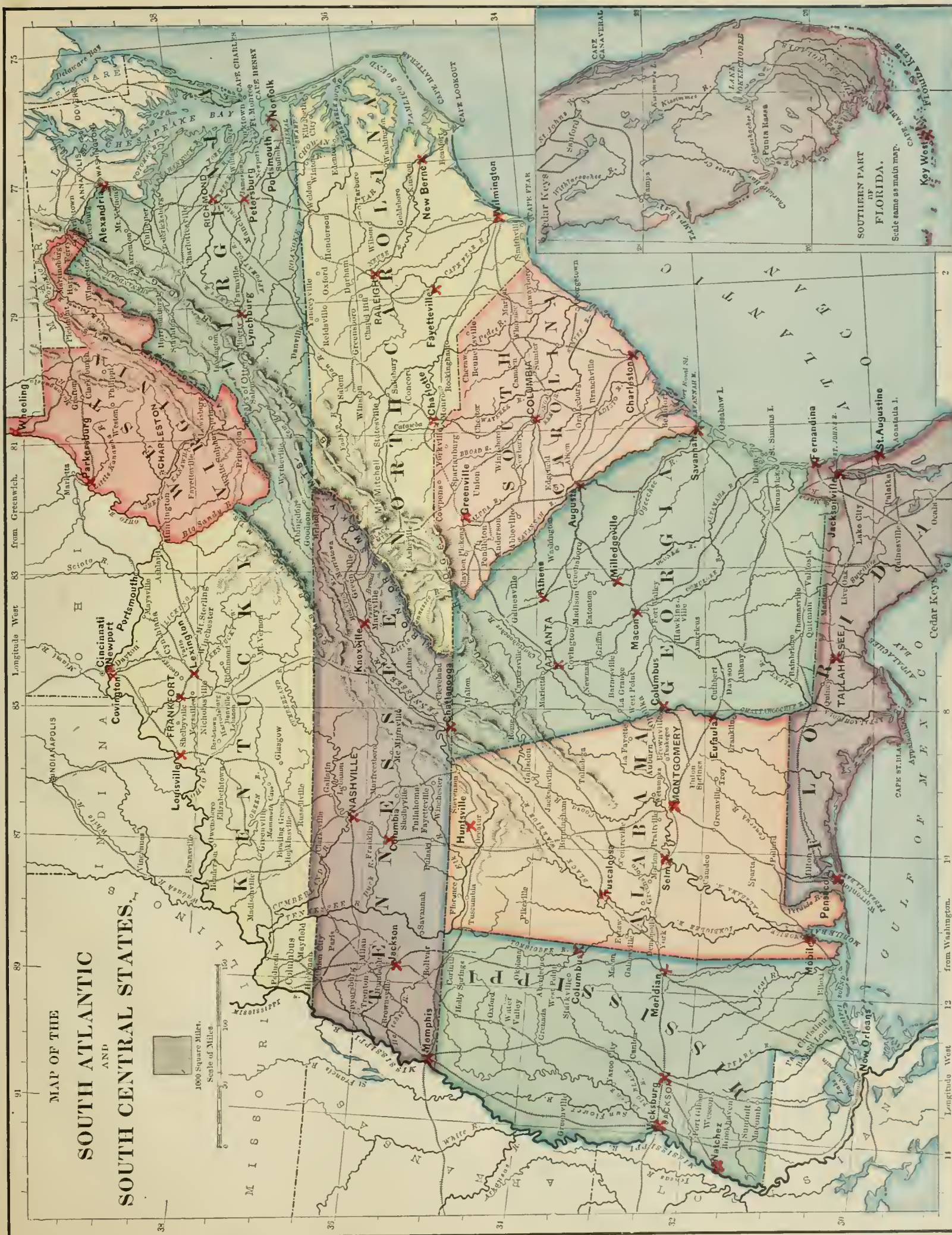
Blue Ridge? Alleghany? Cumberland? Iron? Black? Mount Mitchell? Peaks of Otter?

Bays, etc.—Where is it?

Chesapeake? Albemarle Sound? Pamlico Sound? Tampa? Appalachee? Mobile? Mississippi Sound?

Rivers.—Where does it rise? In what direction does it flow? Through what states? Into what body of water?

Potomac? Rappahannock? York? James? Appomattox? Roanoke? Neuse? Cape Fear? Santee? Savannah? Altamaha? St. Johns? Appalachicola? Flint? Chattahoochee? Great Kanawha? Licking? Kentucky? Cumberland? Tennessee? Yazoo? Pearl? Mobile? Tombigbee? Alabama? Shenandoah?



MAP OF THE
SOUTH ATLANTIC
AND
SOUTH CENTRAL STATES.

Scale of Miles
0 50 100 150
1000 Square Miles.

SOUTHERN PART
OF
FLORIDA.
Scale same as main map.

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ATLANTIC AND CENTRAL STATES: SOUTHERN DIVISIONS.

XLIX.

ATLANTIC STATES: SOUTHERN DIVISION.

1. **Area.**—The area of the four northern states of this group is about equal to that of the eleven Atlantic States north of the Potomac. Georgia is the largest state east of the Mississippi.

2. **Surface.**—The surface consists of several belts of country parallel to the coast:

First. The most western belt contains the Blue Ridge and the Iron or Smoky Mountains, with the high valleys between.

This elevated district is mostly covered with forests of deciduous trees—oak, hickory, chestnut, maple, etc. It has an abundance of water-power, coal, and iron, but is yet undeveloped.

Second. East of the mountain belt lies a broad strip of fertile country. It produces tobacco in the north and cotton in the south.

Third. Farther to the east is a low sandy belt, called the "Pine Barrens," covered with forests. It supplies lumber, tar, pitch, and turpentine.

It extends nearly to the Mississippi on the west, and may be traced towards the north through New Jersey and Long Island.

Fourth. The low, unhealthy coast region contains a chain of great swamps, extending from the Dismal Swamp of Virginia to the Everglades of Florida, and along the shores of the Gulf of Mexico to Texas. In some parts

of this belt rice is extensively cultivated. It also contains forests of live-oak, which is valuable for ship-building.

3. **Climate.**—The summers are long and hot. The winters are mild in the mountains and in the north; in the southern part there can hardly be said to be any winter.

The moist winds of the Atlantic and of the Gulf of Mexico give to Georgia and the Gulf States the largest rain-fall known in any part of the United States excepting Puget Sound and Alaska.

The production of cotton, the great staple of the South, and one of the chief exports of the United States, is dependent upon the frequent summer showers.

4. **Occupation and productions.**—Agriculture is the leading occupation. The principal products are wheat, corn, sweet potatoes, and tobacco in the north; rice and cotton in the south.

5. **Virginia.**—Virginia, "the Old Dominion," is the second state in the production of tobacco, and has a large trade in garden vegetables, Southern agricultural staples, and in oysters from the Chesapeake Bay.

The country between the Blue Ridge and the Alleghany Mountains is called the Great Valley of Virginia, and is one of the most fertile districts in the United States.

Richmond, at the falls of the James, is the capital and chief manufacturing and railroad centre. It is the largest city in this group of states, and has an extensive trade in iron manufactures and tobacco.

Norfolk, the second city of the state, and a leading cotton port, has the best harbor in the United States south of the Potomac.

6. **North Carolina.**—North Carolina, "the Old North State," is noted for its extensive pine forests.

Wilmington, the largest city, exports turpentine, tar, pitch, rosin, lumber, rice, and cotton. Raleigh is the capital.

7. **South Carolina.**—South Carolina, "the Palmetto State," produces more rice than any other state.

Charleston, the largest city, is an important cotton port. Columbia is the capital.



8. **Georgia.**—Georgia has a larger population and more extensive manufactures than any other sea-board state south of Virginia. The manufactures are chiefly of iron and cotton, and are rapidly increasing.

Atlanta, the capital and largest city, is an important railroad centre. Savannah, the second city and chief port, has a large cotton trade. Columbus, on the Chattahoochee, has abundant water-power, and manufactures a large amount of cotton goods.

9. **Florida.**—Florida is noted for its mild climate and its orange-groves and other tropical vegetation.

The population is nearly all in the northeast, and within 100 miles of the northern boundary. The southern half of the state is a low morass.

St. Augustine, next to Santa Fé, is the oldest town in the United States. Pensacola has the best harbor on the Gulf. Key West, the largest city, is a wrecking station, and is largely engaged in sponge-fishing and in the manufacture of cigars. Tallahassee is the capital.

Questions (I.)—1. What is the area of the four northern states of the South Atlantic group? Of Georgia?—2. Of what divisions does the surface consist? What constitutes the western belt? The second belt? What does it produce? What is the third belt? What does it supply? What is the fourth belt? What are the productions of this belt?—3. What is the character of the climate? What is said of the rainfall? Of the production of cotton?—4. What is the leading occupation? Name the chief productions.—5. For what is Virginia noted? Richmond? Norfolk?—6. North Carolina? Wilmington? Raleigh?—7. South Carolina? Charleston? Columbia?—8. Georgia? Atlanta? Savannah? Columbus?—9. Florida? What is said of St. Augustine? Pensacola? Key West? Tallahassee?

(II.)—2. What is said of the forests of the mountain belt? Of its water-power and minerals? What is the extent of the third belt?—5. Where and what is the Great Valley?—9. Where is most of the population of Florida? What is the character of the southern half of the state?

L.

THE CENTRAL STATES: SOUTHERN DIVISION.

1. **Surface.**—This group of states has a diversified surface, but the greater part is in the low Central Plain.

West Virginia lies in the Eastern Highland, and Mississippi in the Great Plain. Kentucky, Tennessee, and Alabama have large highland districts.

2. **Climate.**—The climate of the highlands is mild and delightful; the lowlands have long and hot summers.

3. **Soil.**—The greater part of the plain is very fertile.

4. **Occupations.**—Agriculture is the chief occupation. The leading staples are cotton, corn, tobacco, and hemp.

All but West Virginia produce cotton. The mountains and numerous rivers of the Eastern Highland give West Virginia, Kentucky, and Tennessee unlimited water-power, coal, and iron: these are as yet but little used.

5. **Commerce.**—The Cumberland, Tennessee, Alabama,

and other large navigable rivers radiate from the highland and fall into the Ohio, the Mississippi, and the Gulf. These rivers and the numerous railways furnish excellent commercial facilities.

Louisville, Knoxville, Chattanooga, Nashville, Memphis, and Mobile are the leading railroad centres.

6. **West Virginia.**—West Virginia has a mountainous surface. It is rich in bituminous coal, iron, salt, and petroleum.

Wheeling, on the Ohio River, is the largest city. Parkersburg is an important town. Charleston is the capital.

7. **Kentucky.**—Kentucky is the most populous state south of the line of the Ohio and Potomac rivers.

It surpasses every other state in the production of tobacco, and produces half of the hemp raised in the United States.



TOBACCO PLANTATION.

Louisville, on the Ohio, is, after New Orleans, the largest city south of the Ohio and the Potomac; it has a large trade in flour, pork, hemp, and tobacco. Covington and Newport are opposite Cincinnati. Frankfort is the capital.

8. **Tennessee.**—Tennessee has three physical divisions, known as East, Middle, and West Tennessee.

East Tennessee is a mountainous country, and is remarkably rich in coal, iron, timber, and water-power.

Knoxville, on the Holston, and Chattanooga, beautifully situated on the Tennessee, are the chief depots of this important region.

Middle Tennessee, the most populous division, is famous for its production of corn, tobacco, and live stock. Nashville, its depot, is the capital and largest city in the state.

West Tennessee is the lowest and warmest part of the state. Cotton is the chief staple.

Memphis is the largest city on Mississippi River except New Orleans, St. Louis, Minneapolis, and St. Paul.



COTTON - FIELD.

9. Alabama.—The valleys of the Alabama, the Tombigbee, and the Tennessee include most of the state. Cotton is the chief product.

LI.

QUESTIONS ON THE MAP.

General.—Name the states of this group. Which border on the Ohio River? On the Mississippi? On Lake Superior? On Lake Michigan? On Lake Erie? What water connects Lake Superior with Lake Huron? Lake Huron with Lake Michigan? What lake between Lake Huron and Lake Erie? What rivers connect these lakes? Which of these states has no river belonging to the Mississippi system?

Ohio.—Name the three chief branches of the Ohio River in this state. What river in the northwest? What city on the Maumee? What two cities on Lake Erie? On the Ohio? On the Miami? What city on the Muskingum? On the Scioto? West of Columbus? What three southeast of Cleveland? What city is the capital?

Indiana.—Which is the chief river of Indiana? What is the chief branch of the Wabash? What large city on the west fork of the White? What two cities on the Wabash? What two on the Ohio? What city on the Maumee? What city is the capital?

Illinois.—Name the three chief branches of the Mississippi in this state. What is the capital? What city on Lake Michigan? (What two cities southwest?) On Mississippi River? (What city on Rock River?) On Illinois River? Northwest of Peoria? Southeast of Peoria?

Wisconsin.—Which is the chief branch of the Mississippi in this state? What lake in the eastern part? What river is its outlet? Into what bay does it flow? What two cities on Lake Winnebago? On Lake Michigan? What city on Mississippi River? What city is the capital?

Michigan.—Of what does Michigan chiefly consist? (*Of two great peninsulas.*) What large island in Lake Superior belongs to this state? Which is the chief river of South Michigan? (What river north of Grand River? What three cities on Grand River? Which of these is the capital? What city on Muskegon River? What bay on the eastern shore? (What river flows into it?) What two cities on Saginaw River? What city on Detroit River?

Voyages and Travels.—Through what waters would you pass, and

Selma, Tuscaloosa, and Montgomery, the capital, are important depots for cotton. Mobile, a cotton port, is the largest city.

10. Mississippi.—Mississippi is noted as the leading state in the production of cotton.

Vicksburg is the most important city. Jackson is the capital.

Although the richest in the most important export of the United States, this is the only Gulf State with no sea-port of its own. It has no large city.

Questions (I.)—1. What is the character of the surface of this division? Where does the greater part lie?—2. What is the character of the climate?—3. Of the soil?—4. What is the chief occupation? Name the leading staples.—5. What is said of the chief rivers of this group? What commercial facilities has this section? Name the leading railroad centres.—6. What kind of a surface has West Virginia? In what minerals is it rich? What is the largest city? The capital?—7. For what is Kentucky noted? Louisville? Covington? Frankfort?—8. How many physical divisions has Tennessee? Name them. For what is East Tennessee noted? Knoxville and Chattanooga? Middle Tennessee? Nashville? West Tennessee? What is the principal staple? What is said of Memphis?—9. What river valleys include most of the State of Alabama? What is the chief product? Name the principal cotton depots. For what is Mobile noted?—10. For what is Mississippi noted? Name the most important city. The capital.

(II.)—1. Which of these states has no lowland? Which no highland? Which have large highland districts?—4. Which of these states does not produce cotton? Which are rich in water-power, coal, and iron?—7. How does Kentucky rank in the production of tobacco? Of hemp?—10. Has Mississippi any sea-ports? Any large cities?

near what cities, in a coasting voyage from Chicago to the head of Lake Superior? Chicago to Cleveland? What cities would you pass between Cincinnati and the mouth of the Ohio? By rail from Chicago to Oshkosh? Chicago to St. Louis? Chicago to Evansville? Chicago to Louisville by way of Logansport? Chicago to Cleveland? Cleveland to Cincinnati? Cleveland to Grand Rapids by way of Detroit?

LII.

REVIEW EXERCISES.

States.—How bounded? What is the capital? The largest city?

States.	Area in Sq. Miles.	Population in 1880.	States.	Area in Sq. Miles.	Population in 1880.
Ohio	41,060	3,198,062	Wisconsin	56,040	1,315,497
Indiana	36,350	1,978,301	Michigan	58,915	1,636,937
Illinois	56,650	3,077,871			

Cities and Towns.—In what part of the state? How situated?

COLUMBUS? Cincinnati? Cleveland? Toledo? Dayton? Springfield? Zanesville? Akron? Sandusky?

INDIANAPOLIS? Evansville? Fort Wayne? Terre Haute? New Albany? Lafayette?

SPRINGFIELD? Chicago? Peoria? Quincy? Bloomington? Rockford? Aurora? Galesburg?

MADISON? Milwaukee? Racine? Oshkosh? La Crosse?

LANSING? Detroit? Grand Rapids? Bay City? East Saginaw? Jackson?

Bays.—Where is it? Green? Saginaw?

Rivers.—Where does it rise? In what direction does it flow? Through what states? Into what body of water?

Scioto? Wabash? White? Illinois? Wisconsin? St. Marys? Fox? Grand? St. Clair? Detroit? Maumee? Saginaw?

Lakes.—Where situated? What outlet? Winnebago? St. Clair?



MAP OF THE
CENTRAL STATES,
NORTHERN DIVISION.



NORTHERN CENTRAL STATES.

LIII.

CENTRAL STATES: NORTHERN DIVISION.

1. This group lies wholly in the Great Central Plain.

2. **Surface.**—There are no mountains.

There is a hilly region in the southeast, towards the Ohio, and another and more rugged one towards Lake Superior.

The greater part of Illinois and the adjacent parts of Wisconsin and Indiana are level or rolling prairies. The rest of the vast plain, and the hilly regions, are covered with forests except where cleared for cultivation.

3. **Climate.**—The winters are severe, especially in the north; the summers are hot.

4. **Minerals.**—The hilly region near Lake Superior contains an abundance of iron-ore and the richest copper-



COPPER-MINING.

mines in the world; that near the Ohio is equally rich in iron, and contains very extensive deposits of coal. An important lead region covers the adjacent parts of Wisconsin and Illinois near the Mississippi. Michigan produces more salt than any other state.

5. **Occupations.**—Agriculture and grazing are the leading pursuits. Of wheat, corn, wool, and live stock the quantity produced is unsurpassed by that of any equal area on the globe. Manufacturing and mining are important, and are rapidly increasing in the coal and iron districts.

6. **Commerce.**—The commercial advantages of this group are remarkable. Three of the principal waterways of the continent—the Mississippi, the Ohio, and the Great Lakes—form an almost complete boundary.

On or near this margin lie all the largest cities in the United States west of Atlantic tide-water excepting San Francisco and New Orleans. Milwaukee, Chicago, Detroit, Toledo, Cleveland, and Cincinnati are on the inner margin of the district; and Minneapolis, St. Paul, St. Louis, Louisville, Pittsburgh, and Buffalo are just outside of it.

The chief business of the large and important inland city Indianapolis, and of all these lake and river ports except Pittsburgh, and of the systems of railways of which they are the centres, is the collection and transportation of the agricultural and grazing products of this vast granary and those of the equally productive adjacent states west of the Mississippi River.

Canals connect the rivers flowing into the Great Lakes with navigable branches of the Mississippi and the Ohio, the Wisconsin with the Fox, the Illinois with the Chicago, and the Wabash with the Maumee. The falls in the St. Marys River, at the entrance of Lake Superior, are passed by a ship-canal in Michigan.

Most of the rivers of the Mississippi system have high banks called bluffs. The depth of water in these rivers varies greatly during the year, the Ohio sometimes having a "rise" of fifty feet.

7. **Inhabitants.**—The inhabitants are chiefly descendants of immigrants from the North Atlantic and Middle Atlantic States; most of the remainder are European immigrants.

No part of the world possesses a larger proportion of intelligent, industrious, self-reliant citizens; and no equal area surpasses this group of states in the excellence of the common schools and the general interest in public education.

The Germans constitute the greater part of the foreign-born population; the Irish are next in numerical importance; there are also many thousands of Swedes, Norwegians, and Danes.

8. **Ohio.**—Ohio is the first state in the Union in the production of wool, the third in that of coal, and is the third in population. In the amount and variety of its manufactures it exceeds every other state west of the Appalachian Mountains.

Cincinnati, the largest city, and the metropolis of the Ohio Valley, has an extensive trade in provisions and grain, and is one of the principal manufacturing cities in the United States.

Cleveland, the second city, is one of the five Great Lake ports. Toledo, also a lake-port, Dayton, and Columbus, the capital, are among the numerous large cities.

9. **Indiana.**—Indiana is the sixth state in population, and has a level surface, fertile soil, and valuable mines of block-coal. It is the second state in the production of wheat, and produces a large amount of other grains and live-stock.

Indianapolis, the capital and largest city, is a great rail-road centre, and one of the most important and rapidly growing cities of the Central States. Evansville and Fort Wayne are next in population.

10. **Illinois.**—Illinois is the first state in the Union in the production of corn and wheat, the second in that of coal, and is the fourth in population. It possesses one of the most extensive coal-fields in the world.

This state is mostly prairie, with low hills on the Ohio and bluffs on the Mississippi.

Chicago, the largest city in the state, and the commercial metropolis of the St. Lawrence basin, is the chief lumber and pork market in America, and, next to London, the greatest grain market in the world.

A large number of railways radiate from it as a centre. The city is of recent and remarkably rapid growth, its population having increased nearly seventy per cent. in the last ten years. Originally built on low ground, it has become, in its grading, drainage, and water-supply, a monument to the energy, sagacity, and public spirit of its citizens.

In October, 1871, a fire, one of the most destructive in modern times, swept away three and a quarter square miles of its most valuable storehouses and residences. The direct loss was estimated at nearly \$200,000,000, and the loss of business at \$90,000,000 more. Notwithstanding this sudden calamity, the most extensive and disastrous that ever befell an American community, the new Chicago that has already sprung from the ashes of the old is in every respect a grander city.

Among other important cities are Peoria and Quincy. Springfield is the capital.

11. **Wisconsin.**—Wisconsin resembles Illinois in the abundant production of wheat, and Michigan in that of lumber. This state has a large number of beautiful lakes; it also has an abundance of water-power, that of the Fox River, between Winnebago Lake and Green Bay, being among the most valuable in the United States.

The population is mostly in the south.

Milwaukee, the largest city, is one of the five Great Lake ports, and has a large commerce in breadstuffs, provisions, and lumber. Racine, Oshkosh, La Crosse, and Fond du Lac are important places. Madison is the capital.

12. **Michigan.**—Michigan consists of two peninsulas. It is bordered by four of the five Great Lakes, and has more coast than any other state excepting Florida.

The population is mostly in the south, which is fertile. The northern part of the southern peninsula is sandy, and covered with valuable forests of white pine. The North Central States furnish a ready market for the salt of Saginaw and for the lumber of Saginaw and of the eastern shore of Lake Michigan. Other



REAPING SCENE.

important productions are white-fish from the Great Lakes and copper and iron from the shores of Lake Superior.

The country along the western coast of the southern peninsula is known as the Fruit Belt.

In winter the cold winds from Wisconsin become partly warmed in sweeping over the broad and open waters of Lake Michigan, and give to these shores so mild a winter climate that fruit trees are seldom injured by extreme cold.

Detroit, the eastern entrance to Michigan and the upper lakes, is the largest city. Grand Rapids, the second city, is noted for its lumber and water-power. Lansing is the capital.

Questions (I.)—1. Where is this group situated?—2. What peculiarity has its surface? Where are the prairie regions? The forest regions?—3. What is the character of the climate?—4. What minerals in the hilly region near Lake Superior? In that near the Ohio? Where is the lead region? Which of these states produces salt?—5. Name the two leading pursuits. What is said of the products? Of manufacturing and mining?—6. What is said of the commercial advantages? Name the three great water-ways. What do they form? What is said of this boundary? What cities are on the inner margin of this district? What cities are just outside of it? What is the chief business of these cities?—7. Who are the inhabitants?—8. For what is Ohio noted? Cincinnati? Cleveland? What cities are next in size? Which of these is the capital?—9. For what is Indiana noted? Indianapolis? What other important cities?—10. For what is Illinois noted? What is said of its coal-fields? For what is Chicago noted? What other important cities? What city is the capital?—11. What are the principal productions of Wisconsin? What is said of its lakes and water-power? For what is Milwaukee noted? What other important places? What city is the capital?—12. For what is Michigan remarkable? Where is its fruit belt? For what is Detroit noted? Grand Rapids? What city is the capital?

(II.)—2. Where are the hilly regions?—6. What is said of the canals? Of the ship-canal? Of the banks of the rivers of the Mississippi system? Of the depth of water? How high is the rise of the Ohio?—7. What is the character of the people of this group? Of the common schools? Name the chief elements of the foreign-born population.—10. What is the character of the surface of Illinois? Of what is Chicago the centre? What is said of its growth? Of its grading, drainage, and water-supply? With what calamity was it visited in 1871? What was the estimated loss? What is said of its present condition?—11. Where is most of the population of Wisconsin?—12. Where is most of the population of Michigan? Where are the forests? For what products do the North Central States furnish a market? What others are important? What part of the state is favorable to the production of fruit?



LIV.

QUESTIONS ON THE MAP.

General.—How many states and territories on this map? Which is the territory? Which three belong to the West Central States? (See page 29.) To what do the other three belong? Which is the smallest of the six? The largest? Which are crossed by the Missouri? Which are partly bounded by it?

Minnesota.—What chain of lakes forms the northeast boundary of Minnesota? What ridge in the northern part of the state? What great river rises in this state? In what lake? What branch crosses the southwestern part of this state? What river has its source very near that of the Minnesota? Why is the Red River of the North important? (*Because it is the natural water route to the most fertile part of the Dominion of Canada.*) Into what lake does it flow? What city is the capital? What city west of it? What city in the south-east on the Mississippi? In what part of the state are most of the towns?

Iowa.—Between what rivers is Iowa? What river crosses it? What city is the capital? What city on the Missouri? What four cities on the Mississippi?

Missouri.—What mountains in the southwestern part of Missouri? What two mountains in the southeastern part? What river crosses the state? What city is the capital? What two other cities on the Missouri? What two on the Mississippi?

Dakota.—What mountains in the southwestern part of Dakota? What name is given to the country south of the Black Hills? What river crosses Dakota? Name two northern branches. What highland between the Dakota River and the Missouri? What is the capital of Dakota? What city on Missouri River? What town on Red River of the North?

Nebraska.—What boundary river has Nebraska? What branch in the northern part of the state? What river crosses the state? In what part of the state are most of the towns? What city is the capital? What cities on the Missouri River?

Kansas.—What river crosses the southwestern part of Kansas? What river north of the Arkansas? Of what river is it a branch? What two cities on the Kansas River? Which is the capital? What two cities on the Missouri? In what part of the state are most of the towns?

Travels.—What cities would you pass in a steamboat voyage from St. Louis to St. Paul? From St. Louis to Yankton? By rail from St. Louis to Topeka?

LV.

REVIEW EXERCISES.

States.—How bounded? What is the capital? The largest city?

WEST CENTRAL STATES: NORTHERN DIVISION.			STATES OF THE PLAINS: NORTHERN DIVISION.		
States.	Area in Sq. Miles.	Population in 1880.	States.	Area in Sq. Miles.	Population in 1880.
Minnesota	83,365	780,773	Dakota T.	149,100	135,177
Iowa	56,025	1,624,615	Nebraska	76,855	452,402
Missouri	69,415	2,168,380	Kansas	82,080	996,096

Cities and Towns.—In what part of the state? How situated?

ST. PAUL? Minneapolis? Winona?

DES MOINES? Dubuque? Davenport? Burlington? Council Bluffs? Keokuk?

JEFFERSON City? St. Louis? Kansas City? St. Joseph? Hannibal?

BISMARCK? Yankton? Fargo?

LINCOLN? Omaha? Nebraska City?

TOPEKA? Leavenworth? Atchison? Lawrence?

Mountains.—Where are they?

Height of Land? Ozark? Pilot Knob? Iron? Black Hills?

Rivers.—Where does it rise? In what direction does it flow? Through what states? Into what body of water?

Mississippi? Missouri? Minnesota? Red River of the North?

Des Moines? Platte? Kansas?

[For Sections LVI. and LVII., see page 54.]

WEST CENTRAL STATES AND STATES OF THE PLAINS.

LVIII.

WEST CENTRAL STATES.

1. The five states of this group form a belt of nearly equal width from the Gulf of Mexico to the northern boundary of the United States. (See map on page 28.)

2. **Surface.**—The West Central States resemble each other in the fertility of their soil and in the general level of their surface.

They are mostly low prairies, with timber in the "bottom lands."
The only elevations are the short, low ranges of the Boston and Ozark Mountains, and the clay and sand hills of Minnesota.

Each state has the Mississippi as its eastern boundary, and is divided almost diagonally by a great navigable branch flowing towards the southeast.

3. **Climate.**—The chief difference is in climate, which ranges from the short summers and long, cold

winters of Minnesota to the almost tropical seasons of Louisiana.

4. **Productions.**—The difference in climate causes a corresponding difference in the products. Agriculture is the leading interest throughout this group of states. The great staples, in the order of latitude, are rice, sugar cotton, corn, hemp, and wheat. There are also immense quantities of live stock.

Each of these states strongly resembles its eastern neighbor in climate, soil, and productions.

5. **Population.**—The population of the northern half of this group is mostly derived from the same sources and is of the same general character as that of the North Central States. Public education is provided for with equal liberality, and the common schools are among the first in excellence. The population of the southern half of the

QUESTIONS ON THE MAP.

General.—How many states and territories on this map? To what group do Arkansas and Louisiana belong? (See page 29.) Texas and Indian Territory?

Arkansas.—What ridge and mountains in the northwest-ern part of Arkansas? What river crosses the centre of the state? What one crosses the southwest corner? What town in the northern part? What city is the capital?

Louisiana.—What river crosses the centre of Louisiana? What two lakes in the southeast? What cities on the Missis-sippi River? Which is the capital? What city on Red River?
Indian Territory.—What river crosses the northeast part of Indian Territory? What towns in the eastern part?
Texas.—Name the six chief rivers of Texas. What bays

group is similar to that of the South Central States.

6. Commerce.—The numerous railways and the many navigable rivers present remarkable commercial advantages.

The chief commercial centre is St. Louis, in Missouri. St. Paul, in Min-nesota, and New Orleans, in Louisi-ana, are also very important depots.

7. Minnesota.—Minnesota con-tains the crest of the Great Low Plain of North America.

The waters from this crest, which is called the Height of Land, flow by Red River of the North into Hudson Bay, by the St. Lawrence into the Atlantic, and by the Mississippi into the Gulf of Mexico. In the north are numerous lakes.

It has many rapid rivers with inex-haustible water-power.

St. Paul, at the head of navigation on the Mississippi, is the capital. Min-neapolis, at the Falls of St. Anthony, is the largest city. It employs its immense water-power chiefly in the manufacture of lumber and flour.

on the coast? What city is the capital? What city on the coast? Between Galveston and Austin? Southwest of Austin? Northeast? On the Rio Grande?

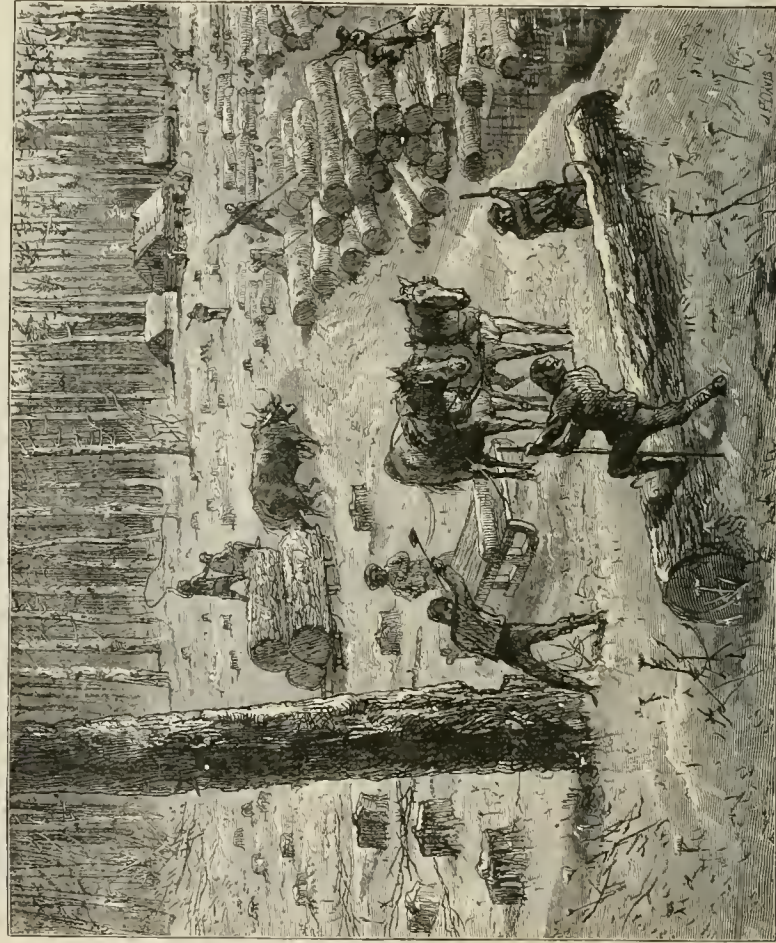
LVII.

REVIEW EXERCISES.

States.—How bounded? What is the capital? Largest city?

WEST CENTRAL STATES: STATES OF THE PLAINS:			
SOUTHERN DIVISION.		SOUTHERN DIVISION.	
States.	Area in Sq. Miles.	Population in 1880.	Population in 1880.
Arkansas..	53,850	802,525	—
Louisiana..	48,720	939,946	1,591,749

8. Iowa.—The greater part of the surface of Iowa consists of fertile rolling prairies. In 1880 it was the second state in the production of Indian corn and of oats, and the sixth in the pro-duction of wheat. It is rich in coal and lead.



LUNBERING IN MINNESOTA.

Cities and Towns.—In what part of the state? How situated?

LITTLE ROCK? Eureka Springs?
 BATON ROUGE? New Orleans? Shreveport? Donald-sonville?
 Tahlequah? Vinita?
 AUSTIN? Galveston? San Antonio? Houston? Sher-man? Dallas?

Mountains.—Where are they?
 Pea Ridge? Boston?

Lakes.—Where is it?
 Borgne? Pontchartrain?

Rivers.—Where does it rise? In what direction does it flow? Through what states? Into what body of water?
 Arkansas? Red? Sabine? Trinity? Brazos? Colorado? Rio Grande?

Dubuque, Davenport, and Burlington, on the Mississippi, are important cities. Des Moines is the capital.

9. Missouri.—Missouri is noted for its ad-vantageous central position, and for the variety and extent of its agricultural and min-eral wealth.

It is the fifth state in population. Coal and iron, the two most important min-erals of civilization, are abundant and excellent; iron is the leading mineral interest. Iron Mountain and Pilot Knob are remarkable masses of iron-ore.

Lead-mining is an important interest, the rich and extensive deposits of lead-ore being among the most valuable re-sources of the state.

St. Louis, the metropolis of the Mis-sissippi Valley, is the sixth city of the United States in population, and is the central depot of exchange and supply for a large part of the Union.

Its chief manufactures are iron, flour, and machinery. As a depot for agricultural and grazing products it has a very ex-tensive and rapidly increasing busi-ness. Four great water-ways, the Mis-souri, Ohio, and Upper and Lower Mis-sissippi, with their numerous branches,

make it the centre of many thousands of miles of river navigation, about 1000 miles being within the limits of the state or on its boundaries. Twenty-four lines of railway centre at St. Louis, and connect it with all parts of the country, from Galveston and Mobile to New York, Boston, and San Francisco. A great railroad bridge, with arches of steel, connects it directly with the railroads east of the Mississippi.

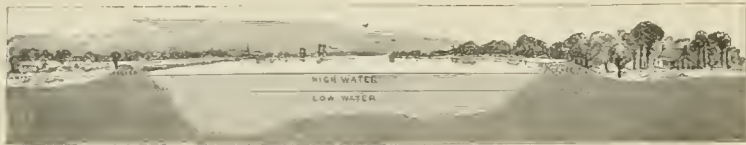
Other important places are Kansas City and St. Joseph. The capital is Jefferson City.

10. Arkansas.—The great staples are cotton and corn.

Arkansas is rich in water-power, timber, and coal, and in valuable ores of iron, zinc, lead, and silver. The development of these great resources has but lately begun.

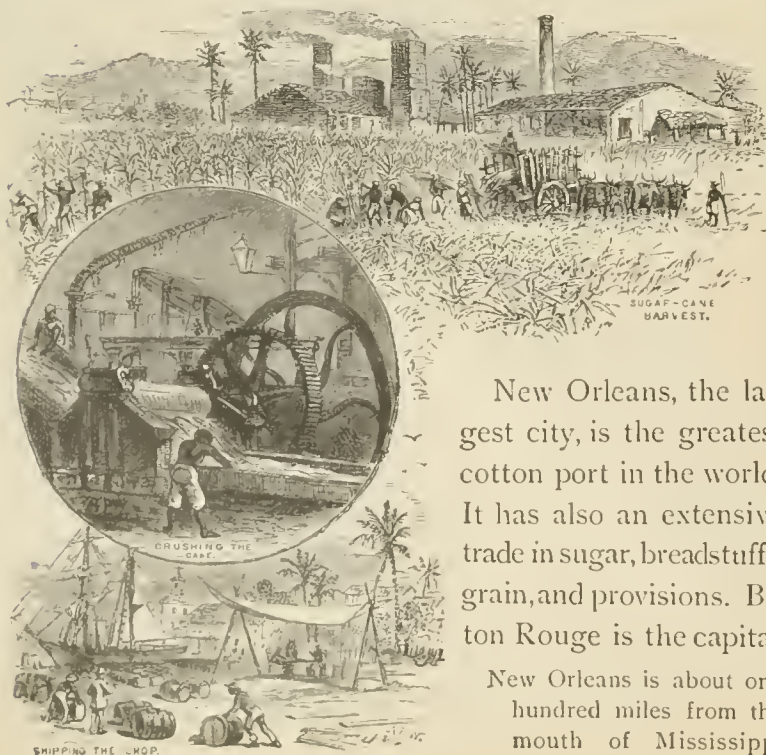
Little Rock is the capital and largest city.

11. Louisiana.—Louisiana was settled by the French. Their descendants, who still constitute a considerable part of the population, speak the French language, and are called creoles—that is, natives.



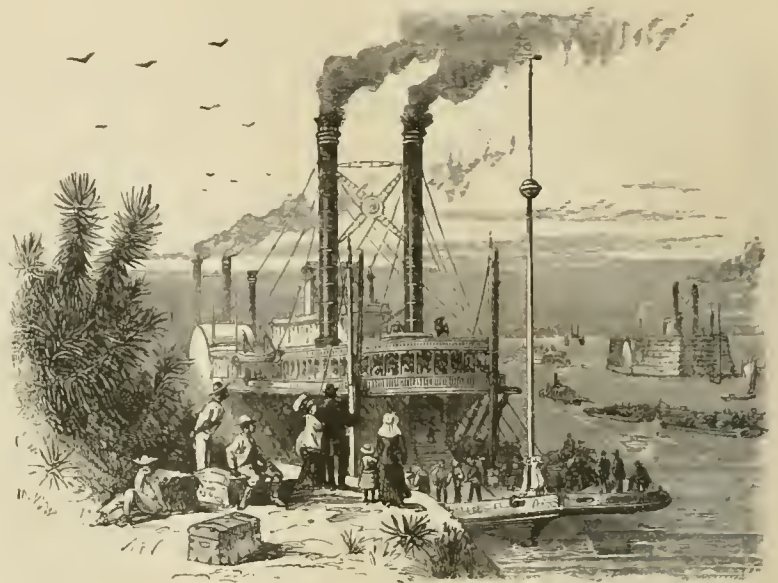
This state is in the lowest part of the Great Plain. The surface of the Lower Mississippi during the annual floods is several feet higher than the country through which it passes, especially in Louisiana, and broad walls of earth, called levees, have been constructed to confine it and its tributaries within their banks. Sometimes the water breaks through the levees, and hundreds of square miles of valuable sugar, rice, and cotton plantations are ruined. Such a breach is called a crevasse.

The state has no mineral wealth except a vein of pure rock-salt, singularly situated in a low island in the southern marshes.



New Orleans, the largest city, is the greatest cotton port in the world. It has also an extensive trade in sugar, breadstuffs, grain, and provisions. Baton Rouge is the capital.

New Orleans is about one hundred miles from the mouth of Mississippi



SCENE ON THE MISSISSIPPI RIVER.

River. Trunk railways connect New Orleans, on the one hand, with the whole system of roads east of the Mississippi, and on the other with the great transcontinental lines which extend into Mexico and to the ports of the Pacific Ocean. It is also connected with the Gulf through lakes Pontchartrain and Borgne by canals for vessels of light draught.

Questions (I.)—1. What do the five states of this group form?—2. In what respects do they resemble each other? What river forms their eastern boundary? By what is each divided?—3. In what do they chiefly differ?—4. What other differences arise from difference in climate? What is the leading interest? Name the great staples in the order of their latitude. What other important products?—5. What is said of the population of the northern half of this group? Of public education? Of the common schools? Of the population of the southern half?—6. What commercial advantages has this group? What is the chief commercial centre? What other two important depots?—7. What elevation does Minnesota contain? For what is Minnesota noted? St. Paul? Minneapolis?—8. What kind of a surface has Iowa? What are its products? Which is the largest city? What other important towns?—9. For what is Missouri noted? For what is St. Louis distinguished? What other important places? What is the capital?—10. What are the great staples of Arkansas? What city is the capital?—11. By whom was Louisiana settled? Who are the creoles? For what is New Orleans noted? What other trade has it? What is the capital?

(II.)—2. What is the general character of the surface of the West Central States? What elevations have they?—4. What does each of these states resemble?—7. How is the Height of Land drained? Where are the lakes?—9. How does Missouri rank in population? What is said of its coal and iron? Which is the leading mineral interest? What remarkable iron-mines has it? What is said of its lead-mines? What manufactures has St. Louis? What other business has it? Of what is it the centre? What is said of its railway connections?—10. What is said of the resources of Arkansas?—11. Where is Louisiana situated? How does the height of its surface compare with that of the Mississippi? What are levees? What is their use? What is a crevasse? What mineral has this state? Where is New Orleans situated? What is said of its railways? In what other way is it connected with the Gulf?

LIX.

STATES OF THE PLAINS.

1. Situation.—This group of three states and two territories lies chiefly in the eastern division of the Great Western Highland.

2. Surface.—It consists principally of rolling prairies, and is part of the high plains that extend west to the Rocky Mountains.



BREAKING RAW PRAIRIE.

In Texas these plains are called the Llano Estacado, or "Staked Plain," from the stake-like stems

of a plant that still grows in abundance on those plains.

3. Inhabitants.—The civilized inhabitants are mostly in the eastern part, near the great rivers, the country here being lower, better watered, and more fertile.

4. Dakota.—Dakota is next in area after Texas and California. It is divided into two nearly equal parts by Missouri River, which crosses it diagonally. Nearly the whole of this territory is a vast prairie, broken with bluffs and low, wide plateaus. Grain and live-stock are the chief staples. Bismarck, on the Missouri, is the capital.

The eastern half is exceedingly fertile, and is noted for its production of wheat and other Northern agricultural products. The rest of the territory contains many large tracts of equally fertile soil, but consists mainly of excellent grazing lands. In the Black Hills, which are low mountains in the southwest, are many valuable mines of gold and other metals.

Dakota is filling with settlers with a rapidity unprecedented, and must soon become a state. This is chiefly owing to its fertility, and to the ease of access furnished by the Northern Pacific Railroad, which crosses the territory, and by the numerous other railways lately constructed in the eastern part.

5. Nebraska.—Nebraska exceeds in area all of New England and New Jersey, taken together. The principal products are wheat and corn, cattle, and other live-stock.

The state is a vast diversified plain, more than half of it being a rolling prairie. Excepting in a few districts the soil is highly fertile; the eastern part is the most productive region, on account of its greater rainfall. Among many railroads is the Union Pacific, which passes through the entire length of the state, and is a part of a great transcontinental trunk line.

Omaha is the largest city; Lincoln is the capital.

6. Kansas.—Kansas, the "Central State," is about twice the size of Ohio. In soil, climate, and productions it greatly resembles Nebraska. It is rich in coal, lead, zinc, and other valuable minerals. No other state has a smaller proportion of useless land.

The eastern half of Kansas is covered with a network of railroads; two transcontinental lines, the Kansas Pacific and the Atchison, Topeka, and Santa Fé, traverse the state from end to end.

Leavenworth is the largest city; Topeka is the capital.

7. Indian Territory.—Indian Territory is a country set apart by Congress as the home of certain Indian tribes, or nations, most of whom once resided east of the Mississippi. It is unorganized.

Tahlequah is the capital of the Cherokee nation.

8. Texas.—Texas is the largest state in the Union, and is noted for its great extent of fertile soil. As an agricultural state its resources are immense. Corn, cotton, cattle, and wool are the chief staples.

The area of Texas is more than five times that of New York, or more than thirty times that of Massachusetts. The population is rapidly increasing by immigration from the states east of the Mississippi and from Germany. There are no very large cities. Texas has at least 25,000 square miles suitable for the cultivation of cotton. It has an equal area adapted to the cultivation of wheat. It has a very large trade in cattle, more than 600,000 having been driven to the North, through Indian Territory, Kansas, and Missouri, in a single year. The northern part of the state has an abundance of coal, iron, and copper.

Galveston is the chief port and largest city. Houston and Dallas are railway centres. Austin is the capital.

Galveston has railway connections with St. Louis and New Orleans. It is also connected with the railway systems of Mexico and California.



SNOW-PLUGH ON PACIFIC RAILROAD.

Questions (I.)—1. Where is this group situated?—2. Of what does it principally consist?—3. Where are most of the inhabitants located? Why?—4. Describe Dakota. What are the chief staples? What town is the capital?—5. Describe Nebraska. Name the principal products. Which is the largest city? The capital?—6. Describe Kansas. Which is the largest city? The capital?—7. What is the Indian Territory?—8. For what is Texas remarkable? What is said of its resources? What are its chief staples? Its largest city? Its important railway centres? Its capital?

(II.)—2. What name is given to these plains in Texas? Why?—4. What is said of the eastern half of Dakota? Of the rest of the territory? Of the population?—5. What is said of the soil and rainfall of Nebraska? Of the railroads?—6. Of the railroads of Kansas?—8. What is the comparative size of Texas? What is said of the population? Of the cities? Of the production of cotton? Of wheat? Of the trade in cattle? In what part of the state are the minerals? What is said of Galveston?



LX.

QUESTIONS ON THE MAP.

General.—How many groups of states and territories on this map? (See page 29.) How many states and how many territories in each group? What territory on the Pacific is not on this map? (*Alaska*.) In what direction do the Rocky Mountains extend in Wyoming and Montana? In Colorado and New Mexico? Which is the principal mountain range in Washington and Oregon? What is it called in California? What mountain ranges along the coast? In what states? What great river breaks through the Cascade Mountains? Which are its two chief branches? Through what territories does the Colorado flow? What two rivers form it? What branch near its mouth?

Montana.—Name the two chief rivers of Montana. What railroad crosses it? What town is the capital? What two towns south of Helena? In what part of the territory are most of the towns?

Wyoming.—What mountain range in the western part of Wyoming? What peak in this range? What great rivers have their sources in this range? What park is mostly in Wyoming? In what part? What lake in the park? What railroad crosses this territory? In what part? What town is the capital? What town northwest?

Colorado.—What four natural parks are in Colorado? What mountain peaks in this state? What great rivers flow from Colorado? What city is the capital? What two towns west of Denver? What town southwest of Georgetown? On which side of the parks are most of the towns? What great railroads wholly or partly in Colorado?

New Mexico.—What river passes through New Mexico? Which are the chief railroads of this territory? What town is the capital? What town southwest of Santa Fé?

Idaho.—Which is the chief river of Idaho? Its chief railway? What town is the capital? What town north of Boise City?

Nevada.—In what part of Nevada are most of the towns? What is the capital? What two towns north of Carson? What railroad?

Utah.—What chain of mountains in the northeast of Utah? What chain southwest of the Uintah Mountains? What lakes in this territory? What city is the capital? What city north of Salt Lake City? What railroads in Utah? In what part are most of the towns?

Arizona.—What two rivers cross Arizona? What cañons in the Colorado River? Where are most of the large towns? What town is the capital? What two towns southeast? What railroads cross Arizona?

Alaska.—What is the principal river of Alaska? (See Map of North America.) What are the chief towns? On what islands?

Washington.—What cape in the northwestern part of Washington Territory? At the entrance of what strait? In what part of the territory are most of the towns? On what sound? What is the capital? What city east of Columbia River? What railroad crosses this territory?

Oregon.—What two boundary rivers has Oregon? In what part of the state are most of the towns? What city is the capital? What city

north of Salem? On what river? Of what river is it a branch? In what river valleys are most of the railways?

California.—Which is the chief mountain range in California? What peak at the northern end of the Sierra Nevada Mountains? What two peaks near their southern extremity? Which is the largest lake in the state? Which are the two chief rivers? Through what famous valley does a branch of the San Joaquin flow? What river in the northern part of the state separates the Cascade Mountains from the Sierra Nevada? What strait at the entrance of the Bay of San Francisco? What city is the capital? What city nearly south of Sacramento? North of Sacramento? West of Stockton? West of Oakland? South of Oakland? North of Oakland? What two towns on the southern coast?

LXI.

REVIEW EXERCISES.

States and Territories.—*How bounded? What is the capital? The largest city?*

ROCKY MOUNTN DIVISION.			BASIN DIVISION.			PACIFIC DIVISION.		
States or Territories.	Area in Sq. Miles.	Pop. in 1880.	States or Territories.	Area in Sq. Miles.	Pop. in 1880.	States or Territories.	Area in Sq. Miles.	Pop. in 1880.
Montana T. . . .	146,080	39,159	Idaho T.	84,800	32,610	Alaska T.	577,400	30,178
Wyoming T. . . .	97,800	20,789	Nevada	110,700	62,266	Washington T. .	69,180	75,116
Colorado	103,925	194,327	Utah T.	84,970	143,967	Oregon	96,030	174,768
New Mexico T. .	122,580	119,565	Arizona T. . . .	113,020	40,440	California	158,360	864,694

Cities and Towns.—*In what part of the state? How situated?*

HELENA? Butte City?

CHEYENNE? Laramie City?

DENVER? Leadville?—Georgetown?

SANTA FÉ? Albuquerque?

BOISÉ CITY? Idaho City?

CARSON? Virginia City? Gold Hill?

SALT LAKE CITY? Ogden City?

PRESCOTT? Tucson? Tombstone?

SITKA? St. Paul?

OLYMPIA? Walla Walla?

SALEM? Portland?

SACRAMENTO? San Francisco? Oakland? San José? Vallejo?

Los Angeles? Stockton? Marysville? San Diego?

Mountains.—*Where are they?*

Rocky? Wind River? Uintah? Wahsatch? Cascade? Sierra Nevada? Coast ranges? Fremonts Peak? Pikes Peak? Mount Shasta? Mount Tyndall? Mount Whitney? Mount Lincoln?

Rivers.—*Where does it rise? In what direction does it flow? Through what states? Into what body of water?*

Missouri? Yellowstone? Colorado? Gila? Green? Grand? Sacramento? San Joaquin? Klamath? Columbia? Snake? Clarks Fork?

Lakes.—*Where is it?*

Yellowstone? Great Salt? Tulare? Utah?

WESTERN STATES.

LXII.

WESTERN STATES: ROCKY MOUNTAIN DIVISION.

1. **Surface.**—This group contains the great water-shed of North America.

The Rocky Mountains, one of the highest ranges in North America, under various names, cover the greater part of this division.

The Great Plains constitute the eastern part of the group, and extend to the base of the mountains.

2. The most important valleys enclosed by the Rocky Mountains are the four parks of Colorado.

Some of these are as large as Connecticut or New Jersey. In the front range or eastern wall of the parks are several peaks over 14,000 feet high. The great central chain of the Rocky



GEYSER OF THE YELLOWSTONE.

Mountains, known as the Sierra Madre or National range, reaches a great elevation on the west side of the parks. From the top of Mount Lincoln the eye sweeps over a wilderness of high peaks, at least two hundred of which are nearly 13,000 feet, and not less than twenty-five over 14,000 feet high.

3. Rivers.—The only navigable rivers are the Missouri and the Yellowstone in Montana.

The snow on the sides and summits of the lofty mountain ranges, melting under the summer sun, is an unfailing supply to the rivers during the months of drought. These rivers are invaluable as means of irrigation.

4. Climate.—The mildness of the winter climate on the east side of the Rocky Mountains, especially in the North and far into British America, is a remarkable fact in the physical geography of this group. It is of exceeding importance in relation to the settlement of these regions. In the higher regions the summers are cold.

Notwithstanding the latitude and the elevation, the climate grows milder and the snow disappears from the plains as we approach the great range. This is rapidly becoming the great grazing region of the continent. Cattle unhoused can live all winter upon the rich grass that covers these plains. They have for ages been the feeding-ground of millions of buffaloes. The immense herds of these valuable wild animals will probably soon be exterminated.

Timber is scarce except on the slopes and in the enclosed valleys of the ranges north of Central Colorado. Towards the south the country grows more and more arid, till in New Mexico the landscape is generally one of desolation.

5. Population.—The total population of this group in 1880 was a little less than three fifths of that of Connecticut, which has about one one-hundredth of the area.

6. Occupations.—Mining and stock-raising are the chief occupations, although agriculture is rapidly developing in Colorado. This group is very rich in metals and other valuable minerals.

7. Montana.—Montana has a fine climate, immense

areas of rich soil and of valuable timber, and great mineral wealth.

It produces a large amount of gold, silver, copper, and live-stock.

Helena, the capital, is on the Northern Pacific Railroad.

8. Wyoming.—The greater part of the population of Wyoming are in the towns on the line of the Union Pacific Railroad and its branches. Wool and immense quantities of live-stock, chiefly cattle and sheep, are shipped to eastern markets.

This territory includes the greater part of the Yellowstone National Park, which surrounds Yellowstone Lake, and has an area of about 3600 square miles. Its deep cañons, lofty falls, and numerous bathing-pools, geysers, and lakes, make it in many respects the most wonderful portion of the continent, and even of the world. It has been set aside by Congress as a "perpetual reservation for the benefit and instruction of mankind."

Cheyenne is the capital and largest city.

9. Colorado.—Colorado contains the Great Parks and the loftiest ranges of the Rocky Mountains.

It is rich in mines of gold, silver, copper, lead, coal, iron, and salt. The mountain "pineries" furnish a large amount of lumber. Grazing and coal-mining are becoming leading industries. Irrigation is extensively employed in agriculture.

Denver, the capital and largest city, is about 5000 feet above the sea.

10. New Mexico.—New Mexico was settled more than three centuries ago (1550) by the Spaniards.

The inhabitants are chiefly a mixed race, descended from civilized Indians and the Spanish settlers, and speak the Spanish language; they are mostly in the fertile Valley of the Rio Grande, a narrow, swift, and shallow stream, nearly all the waters of which are consumed in irrigation in dry seasons. The popula-



UPPER FALL OF THE YELLOWSTONE.

tion of the territory has lately begun to increase by immigration. Two transcontinental railways now cross New Mexico, and common schools have been established.

Santa Fé, 6840 feet above the sea, is the capital and largest city. It is the oldest city in the United States.

Questions (I.)—1. What does this group contain?—2. Which are the most important valleys?—3. Which are the only navigable rivers?—4. What remarkable fact in regard to climate? Why important?—5. What is said of the population?—6. What are the principal occupations? What partial exceptions? In what is this group rich?—7. What is said of Montana? Name its chief resources. What is the capital?—8. What is said of the population of Wyoming? What are its chief products? What is the capital?—9. For what is Colorado noted? What is its capital and largest city?—10. When and by whom was New Mexico settled? What is its capital and largest city? What is said of it?

(II.)—1. What mountains in this division? What is the character of the eastern part?—2. What is the size of these parks? What peaks east of them? What mountain chain west of the parks? What is said of the view from Mount Lincoln?—3. What are the effects and uses of the snow?—4. What is the character of this part of the plains? To what is it best adapted? Why? What is said of the buffaloes? Where is timber found? What is the character of the country towards the south?—5. What does Montana produce?—6. What is said of the highest mountain chain of Wyoming? Of the National Park?—7. What minerals has Colorado? What other industries?—8. Who are the present inhabitants of New Mexico? Where are they located? What is the character of the Rio Grande? What is said of the population? What is said of the railways of the Territory of New Mexico?

LXIII.

WESTERN STATES: BASIN DIVISION.

1. Situation.—Nevada and the three territories Idaho, Utah, and Arizona occupy the central and larger part of the Great Basin, which is nearly enclosed by the Sierra Nevada, Cascade, and Rocky Mountains.

2. Surface.—The surface is very rugged and uneven.

Numerous short parallel chains cover nearly the whole region. The lofty Wahsatch chain divides the high plateau of the Colorado, the waters of which flow to the Gulf of California, from the lower plateau of the Great Basin, where the swift streams are lost in salt lakes near the foot of its mountain walls.

3. Climate.—The climate is exceedingly dry. This is particularly the case in the south, where the summers are very hot; in the extreme north the winter is cold, with deep snows.

The temperature is very variable. In consequence of the great

extent of dry soil and naked rock, an intensely warm day is followed, even in midsummer, by a cold night.

4. Vegetation.—Timber is found only on the highest mountains. The brown sage-bush in the north and the cactus in the south are the characteristic vegetation.

5. Population.—More than half the population of this group of states is in Utah.

6. Occupations.—The chief occupation in Utah is agriculture; in the remaining regions, mining.

7. Idaho.—Idaho produces large amounts of gold and silver. Boise City is the capital.

8. Nevada.—Nevada is chiefly remarkable for its mineral wealth. For several years it produced more than half of the lead mined in the United States, and nearly one third of the silver. Virginia City and Gold Hill are famous for rich mines of silver.

A single vein of one of these mines is said to have yielded over \$22,000,000 in fourteen months.

Carson is the capital.

The towns are at the silver-mines, on the eastern slope of the Sierra Nevada.

9. Utah.—Utah is remarkable as the home of the Mormons, or Latter-day Saints; they constitute four fifths of the population.

Their religion has many peculiarities, the most important of which is polygamy. The Mormons occupy fertile valleys at the western base of the Wahsatch range, and carry on an extensive agriculture by means of irrigation.

Salt Lake City is the capital and largest city.

10. Arizona.—Arizona and Southern California have a drier climate than any other part of the United States.

The annual rain-fall near the mouth of the Colorado is only about three inches; that of Southern Alabama is sixty-three inches. The cañons of the Colorado are the greatest and deepest river gorges in the world. The river is navigable to Callville; beyond this for more than three hundred miles the river and its tributaries flow with great swiftness through narrow chasms with nearly perpendicular walls, and over rocky beds from 3000 to 6000 feet below the general level of the plateau.



GRAND CAÑON OF THE COLORADO.

Arizona is very rich in mineral treasures. The mining of silver and of copper is the leading industry. Coal, salt, and gold are abundant. Two transcontinental railways cross the territory. In the eastern part of the territory are large pine forests.

Prescott is the capital. Tucson is the largest town.

Questions (I.)—1. What region does this group occupy?—2. What is the character of the surface?—3. Of the climate? What is the climate in the south? In the north?—4. What is the vegetation?—5. Where is most of the population?—6. The chief occupation in Utah? In the remaining regions?—7. What does Idaho Territory produce? What is the capital?—8. For what is the State of Nevada remarkable? For what are Virginia City and Gold Hill famous? What is the capital?—9. For what is Utah Territory remarkable? What city is the capital?—10. For what is Arizona Territory remarkable? What is the capital?

(II.)—2. What is said of the mountain chains? How does the Wahsatch chain divide this section?—3. What is said of the temperature?—8. Of the amount of silver yielded by a single vein? Where are the towns?—9. What peculiarity has the religion of the Mormons? Where are the Mormons located? What is their chief occupation?—10. How does the rain-fall of Arizona compare with that of Southern Alabama? What is said of the cañons of the Colorado? What is said of the minerals of Arizona? Of the forests? What two railways cross the territory?

LXIV.

WESTERN STATES: PACIFIC DIVISION.

1. Surface.—The lofty range known in California as the Sierra Nevada, and in Oregon and Washington as the Cascade, passes through this entire group of states.

It is nearly as high as the Rocky Mountains, but has fewer passes. East of these mountains is a portion of the great interior plateau; in Washington it is called the Great Plain of the Columbia, and is about 2000 feet above the ocean.

Near the coast is a series of short, low chains, called the Coast ranges.

They are parallel to the great interior chain. The coast is very bold, and without islands.

Between the high chains and the Coast ranges are three important lowlands: the Valley of Puget Sound, in Washington; the Valley of the Willamette, in Oregon; and the California Basin in California. Each of these is the most fertile and important part of the state or territory in which it is situated.

2. Climate.—The climate west of the great mountain range is mild and equable in temperature, but has great extremes of moisture.

Puget Sound has a greater rain-fall than any other part of the United States except Alaska.

3. Occupations.—Agriculture, manufacturing, mining, and lumbering are the leading pursuits.

4. Commerce.—Internal com-

merce, except over the Pacific railroads, is quite limited. There are few navigable rivers. The Columbia is navigable to where it breaks through the Cascade Mountains, and again beyond them to Priest Rapids; its great branch, the Snake, to Lewiston, Idaho; the Sacramento and San Joaquin are navigable for a large part of their course; the Colorado more than 300 miles, to the mouth of the Grand Cañon; and the Yukon in Alaska, with its great branch, the Pelly, nearly 3000 miles.

5. Alaska.—The great territory of Alaska, including the Aleutian Islands, was purchased of Russia in 1867.

Mountain chains extend along the whole coast and through the islands; they contain many volcanoes. The area of Alaska is over 500,000 square miles. The greater part has a severe Arctic climate. The west coasts have a mild, rainy climate. The rain-fall at Sitka is about ninety inches a year; there are but few clear days. In the south are heavy forests.

The political organization of Alaska is very simple. A governor, collector of customs, and a few other officials reside at Sitka, and are appointed by the President of the United States. It has no legislature. The inhabitants are mostly Indians, Esquimaux, and half-breeds.

They live on the coasts and islands, being almost exclusively dependent upon the fisheries, which are among the most valuable in the world. The skins of the fur-seal are the chief article of export.

6. Washington.—Washington has the most extensive and valuable lumber forests in the United States.

In the number and excellence of its bays and harbors it is unsurpassed. The eastern half is noted for wheat and live-stock; owing to the mild and moist climate, the western half is densely covered with valuable forests of pine and cedar. The short streams falling into Puget Sound furnish exhaustless water-power. Coal is abundant.

The principal exports are lumber and wheat.

Olympia is the capital.

7. Oregon.—The greater part of the population of Oregon is in the fertile Valley of the Willamette. Wool-growing and stock-raising are the principal occupations.

The salmon fisheries of the Columbia are of great and increasing importance. Wheat, lumber, and canned salmon are the chief exports.

Though in the latitude of New England, cattle spend the winter in green fields. The Northern Pacific Railroad connects Oregon and Washington with the Great Lakes and the Mississippi Valley. The coast is deficient in harbors.

Portland, on the Willamette, is the largest city. Salem is the capital.



BIG TREES OF CALIFORNIA.

8. **California.**—California produces more gold and more wine than any other state in the Union. In manufactures it surpasses every other state west of the Mississippi except Missouri. It contains the great double Valley of the Sacramento and the San Joaquin, which is connected with the Pacific Ocean by the Golden Gate at San Francisco, and with the Mississippi Valley by the Central, Union, and Southern Pacific Railroads.

The variety and value of the agricultural and mineral riches of this valley are beyond brief description, and make California a proverb for wealth and fruitfulness throughout the world. The yield of the vast gold-fields of the Sierra places California among the first of the gold-producing countries; yet the annual value of manufactured products already greatly exceeds that of the mineral products, while the results of agriculture nearly equal all the others together.

Wheat, barley, wine, and fruits are excellent in quality and wonderful in quantity. The soil and climate of the southern part of the state are favorable to the cultivation of the orange, olive, fig, almond, and other tropical fruits. They are also favorable to the growth of the mulberry-tree, whose leaves are the food of the silk-worm.

The fertile soil, the equable temperature of its climate, and the succession of rainy and dry seasons which form its year, give to California the most productive agriculture in the United States.

The area of the state is nearly equal to that of New England, New York, and Pennsylvania.

Its population in 1880, including more than 75,000 Chinese, was a little more than one fifth of that of the State of New York.

The Big Trees and the Yosemite Valley are two of the chief wonders of nature.

These trees are gigantic evergreens, some of which are more than 100 feet around, 400 feet high, and 3000 years old.

The Yosemite Valley is a remarkable chasm ten miles long and three in greatest width, with perpendicular walls of granite from 3000 to 5000 feet high, over which the Merced River falls, in three leaps, more than 2000 feet.

San Francisco, famous for its magnificent harbor and its export of gold and wheat, is the largest city of the Pacific coast from Cape Horn to Japan, and is the fourth city of the United States in foreign commerce. Sacramento is the capital.

San Francisco is at the western end of the Central Pacific and Southern Pacific railroads, and has an extensive and growing commerce with Europe, the Mississippi Valley, and the Atlantic States, and with the countries and islands of the Pacific Ocean. A large part of the trade with the Atlantic States is carried on by means of ocean steamers and the Panama Railroad. It imports tea and silk from Japan and China in exchange for grain.



YOSEMITE VALLEY.

Questions (I.)—1. What lofty mountain range passes through this group of states? What ranges near the coast?

What three important valleys between the high chains and the Coast ranges? What is said of these valleys?—2. What characteristics has the climate west of the great range?—3. What are the leading pursuits?—4. What is said of internal commerce? Of the mountains? Of the railroads and rivers? How far is the Columbia navigable? The Sacramento and San Joaquin? The Colorado? The Yukon?—5. How was Alaska obtained? When? Describe the political organization of Alaska. Who are the inhabitants?—6. What is said of the forests of Washington? What is the principal export? What town is the capital?—7. Where is most of the population of Oregon? What are the principal occupations? What is said of the salmon fisheries of the Columbia? Of its exports? Which is the largest town? The capital?—8. For what is California noted? What is its rank in manufactures? What important valley has it? By what is it connected commercially with the Pacific? With the Mississippi Valley? What is the area of this state? What natural wonders does it possess? For what is San Francisco famous? What city is the capital?

(II.)—1. How does the Sierra Nevada compare in height with the Rocky Mountains? What is there east of these mountains? By what name is it known in Washington Territory? How high is it? To what are the low chains parallel? What is the character of the coast?—2. What is said of the rain-fall of Puget Sound?—5. What is the character of the coast and islands of Alaska? What is its area? What is the climate of the greater part? Of the west coasts? What is the amount of rain-fall at Sitka?

Where are the forests? Where do the inhabitants live? Upon what are they dependent? What is the chief article of export?—6. What is said of the bays and harbors of Washington Territory? For what is the eastern half noted? What is said of the western half? Of the rivers? What mineral is abundant?—7. How does the climate of Oregon compare with that of New England? What is said of its railroad connections? Of its coast?—8. What is said of the agricultural and mineral riches of California? How does California rank among the gold-producing countries? How do the manufactures compare with the mineral products? How do the agricultural products compare with the manufactures and the mineral products? What is said of the wheat, barley, wine, and fruits? Of the tropical fruits? Of the mulberry-tree? What causes give California the most productive agriculture in the United States? How does the population of California compare with that of the State of New York? Describe the Big Trees. The Yosemite Valley. What is said of the commerce of San Francisco? What other trade route between San Francisco and the Atlantic States? In what does the trade with Japan and China consist?

COMMERCIAL UNITED STATES.

LXV.

INDUSTRIES OF THE UNITED STATES.

I.—1. **Agriculture**, the chief source of food, and the basis of all other industries, is by far the most important occupation of the people of the United States. The following are the leading products.

2. *Maize* or *Indian Corn* is the principal grain. In some years the product has exceeded 1770 millions of bushels. Comparatively a small part is exported; the greater part is used in fattening cattle, swine, etc.

3. *Wheat*, the chief bread grain, is the second in quantity and in value. The annual export is greater than that of all other grains, and sometimes exceeds one fourth of the product. Great Britain is the chief foreign purchaser. A much greater part is distributed to the manufacturing, mining, and cotton districts of the United States.

4. *Oats, barley, rye, buckwheat, and rice* are the other grains. Barley is used chiefly in the manufacture of beer; a considerable part of the wheat, rye, and maize is converted into whiskey, starch, and glucose.

5. *Hay* and *Potatoes* are of great total value, but are too bulky to pay for long transportation.

6. *Tobacco* is a very important product, and is one of the chief articles of export. More than one third of it is produced in Kentucky.

7. *Cotton* is the largest and most valuable export of the United States. Great Britain buys much the greater part, but large quantities are sent to nearly every country of Europe. The crop has amounted to nearly 6 millions of bales, of 475 pounds each, and is still increasing.

8. *Sugar* is a limited crop. Nearly all of it is produced in Louisiana.

NOTE.—**Products in 1879, and Leading States.**—*Maize*, 1773 millions of bushels; Illinois, Iowa, Ohio, Missouri, Indiana, and Kansas.—*Wheat*, 460 millions; Illinois, Indiana, Ohio, Michigan, Minnesota, Iowa, and California.—*Oats*, 408 millions; Illinois, Iowa, New York, Pennsylvania, and Wisconsin.—*Barley*, 44 millions; about one half from California and New York.—*Rye*, 20 millions; Pennsylvania, Illinois, New York, and Wisconsin.—*Buckwheat*, 12 millions; about two thirds from New York and Pennsylvania.—*Rice*, 110 millions of pounds; South Carolina, Georgia, and Louisiana.—*Hay*, 36 millions of tons; New York, Pennsylvania, Illinois, and Ohio.—*Potatoes*, 200 millions of bushels; New York, Pennsylvania, Ohio, and Illinois.—*Tobacco*, 473 millions of pounds; Kentucky, Virginia, Pennsylvania, and Ohio.—*Cotton*, nearly 6 millions of bales; Mississippi, Georgia, Texas, Alabama, and Arkansas.—*Cane Sugar*, 250,000 hogsheads; Louisiana, Texas, Tennessee, and South Carolina.

II.—1. **Grazing** is a department of agriculture.

2. *Butter* and *cheese* are produced in great quantities in the hay districts of the Middle Atlantic and North Central States, and are among the leading articles of export.

3. *Cattle* are also raised for *beef, hides, and tallow* in many parts of the country, but chiefly between the Mississippi River and the Rocky Mountains, and in the Pacific and North Central States.

4. *Sheep* are raised chiefly for *mutton, wool, skins, and tallow*. California, Ohio, and Illinois are the leading states in wool-growing.

5. *Swine* are raised for *pork* and *lard*. The chief supply is from the corn country. St. Louis, Chicago, Cincinnati, Boston, New York, and other cities are extensively engaged in the packing of *pork, lard, and beef*. The greater part is sent to the cotton states and to the mining and manufacturing districts, and there is a large export trade to Europe, the West Indies, and South America.

III.—**Forest products.**—*Lumber, turpentine, and bark* are the chief forest products. Maine, North Carolina, and Canada furnish the chief supply of lumber for the Atlantic States; Michigan, Wisconsin, and Minnesota for the Central; and Oregon and Washington for the Pacific States. Turpentine is chiefly obtained from the Carolina pine-forests. The bark of the oak and the hemlock is of great value for tanning.

IV.—**Fishing.**—The North Atlantic States furnish the chief supply of fish, including cod, mackerel, herring, shad, salmon, and lobsters. Besides these varieties are oysters from the Chesapeake, white-fish from the Great Lakes, and salmon from the Pacific coast.

V.—1. **Minerals.**—*Coal* and *iron* are the most important of minerals. In these two substances the United States is the richest country in the

world. The chief deposits of coal are found in a broad belt extending from Maryland and Eastern Pennsylvania to Kansas and Nebraska. There are also valuable deposits in the Rocky Mountains. The principal iron-mines are in the Appalachian Mountains, on the borders of Lake Superior, and in Missouri. Pennsylvania exceeds all other states in the production of both coal and iron. The production and the manufacture of iron are among the most important industries of the United States, especially in the Ohio Valley and in Missouri.

2. *Petroleum* is supplied chiefly by western Pennsylvania. The refined oil, known as kerosene, is one of the leading exports, and is sent to nearly every civilized country.

3. In the production of *gold* and *silver* the United States surpasses every other country in the world. The chief supply is obtained from the Western Highland. California produces the greatest amount of gold, and Colorado of silver.

4. Among the other important mineral products are *copper* from Arizona, Montana, and Northern Michigan; *lead* from Nevada, Utah, and Missouri; and *salt* from Michigan, New York, West Virginia, and Ohio.

VI.—**Manufactures.**—The principal manufacturing district of the United States lies east of the Appalachians, and between Portland and Baltimore. The second district is in the North Central States. The leading manufactures of the several states have already been described.

Questions. I.—1. What is said of agriculture?—2. Which is the principal grain? What is said of it?—3. Which grain is second in importance? What is said of the export? What country is the chief purchaser? How is the rest distributed?—4. Name the other grains in the order of their importance. What is the chief use of barley? What grains are in part converted into whiskey?—5. What is said of hay and potatoes?—6. Of tobacco?—7. Of cotton?—8. Of sugar?

II.—1. What is said of grazing?—2. Of butter and cheese?—3. For what other purposes are cattle raised? Where?—4. Which are the chief sheep products? The principal wool states?—5. The chief swine products? What is said of the packing trade?

III.—Name the leading forest products. Name the chief sources of the supply of lumber. Of turpentine. What barks are used in tanning?

IV.—Where are the chief supplies of fish obtained?

V.—1. Which are the most important of minerals? What is said of the coal and iron of the United States? Where are the chief coal deposits? The principal iron-mines? Which is the leading state in coal and iron? What else is said of the iron industry?—2. What is said of petroleum? Of kerosene?—3. Of gold and silver?—4. What is said of the other important mineral products?

VI.—Where is the principal manufacturing district? The second district?

LXVI.

TRANSPORTATION.

RAILROADS. I.—The principal or trunk-line railroads of the United States may be divided into Eastern, Central, Southern, and Western.

II.—**Eastern Trunk Lines.**—The principal eastern trunk lines lie chiefly in the Middle Atlantic States. They are six in number, and are of leading importance in the railway system of the United States. The greater part of the surplus products of the northern half of the Mississippi Valley finds its way to a market over these lines.

1. **Grand Trunk**—from Portland, through Montreal and Toronto, to Detroit (861 m.). It lies mostly in Canada.

2. **New York Central and Hudson River**—from New York, through Poughkeepsie, Albany, and Rochester, to Buffalo (440 m.). The *Boston and Albany* extends it to Boston (201 m.).

3. **New York, West Shore, and Buffalo**—from New York to Buffalo (126 m.), parallel to *Hudson River* and *New York Central*.

4. **New York, Lake Erie, and Western**—from New York, through Elmira and Hornellsville, to Buffalo (424 m.), with a branch to Dunkirk.

5. **Pennsylvania**—from Philadelphia, through Harrisburg and Altoona, to Pittsburgh (354 m.). The *New Jersey Railroad*, from Philadelphia to New York (90 m.), is its eastern extension.

6. **Baltimore and Ohio**—from Baltimore, through Cumberland, to Parkersburg, with a branch through Wheeling to Chicago (852 m.).

III.—**Central Trunk Lines.**—These lines lie in the North Central States. Among many important lines the following are prominent:

1. **Michigan Central**—from Detroit, through Jackson and Kalamazoo, to Chicago (284 m.). Extension of the principal Canada roads.
2. **Lake Shore and Michigan Southern**—from Buffalo, through Erie, Cleveland, and Toledo, to Chicago (539 m.). Extension of *New York Central and Hudson River*, and other New York trunk lines.
3. **Wabash, St. Louis, and Pacific**—from Detroit and Toledo, through Logansport, Springfield, and Keokuk, to Kansas City (713 m.) and Omaha (744 m.). Extension of *Lake Shore*.
4. **New York, Pennsylvania, and Ohio**—from Salamanca, through Mansfield and Dayton, to Cincinnati (448 m.). Extension of *New York, Lake Erie, and Western*.
5. **Pittsburgh, Fort Wayne, and Chicago**—from Pittsburgh, through Mansfield and Fort Wayne, to Chicago (468 m.). Extension of the *Pennsylvania*.
6. **Pittsburgh, Cincinnati, and St. Louis**, or "Pan-Handle Route"—from Pittsburgh, through Columbus, to Cincinnati, and through Richmond to Indianapolis. Continued in the *St. Louis, Vandalia, Terre Haute, and Indianapolis Road*, through Terre Haute to St. Louis (619 m.). Extension of the *Pennsylvania*.
7. **Cincinnati, Washington, and Baltimore and Ohio and Mississippi**—from Parkersburg, through Cincinnati, to St. Louis (536 m.). Extension of *Baltimore and Ohio*.
8. **Illinois Central**—from Cairo, through Centralia, to Chicago (365 m.), and through Bloomington and Dubuque, to Sioux City (784 m.).
9. **Chicago and Alton**—from Chicago, through Bloomington, Springfield, and Alton, to St. Louis (280 m.).

IV.—**Southern Trunk Lines.**—The following groups include most of the chief lines of the South Atlantic and South Central States:

1. A line from Washington through Knoxville to Chattanooga; a line from Washington and Richmond, through Atlanta, to Mobile and New Orleans; and a series of railways which, under many names, connect all the Atlantic and river ports from Jacksonville, Fla., to Portland, Me.
2. In the second group are lines extending westward from Charleston, Savannah, and other southern Atlantic ports, and crossing the Mississippi at New Orleans, Vicksburg, and Memphis.
3. The third group includes lines extending north and south from Louisville to Mobile, Memphis, and New Orleans; from St. Louis and Columbus, Ky., to New Orleans and Mobile; and from Evansville, through Nashville and Montgomery to Mobile, and through Chattanooga and Atlanta to the southern Atlantic ports.

The chief business of these lines is the exchange of the cotton and other products of the South for the manufactures and imports of the Northern and Central Atlantic States, and the breadstuffs, provisions, and manufactures of the country north of the Ohio and the Missouri.

V.—**Western Trunk Lines.**—These lines lie mostly west of the Mississippi. The *Northern Pacific* extends from Duluth and St. Paul to various ports on Puget Sound and the Columbia. It unites the railway and water-way systems of the Upper Mississippi and the Lakes with those of the Pacific region. The *Central Pacific* extends from San Francisco to Ogden, is continued thence by the *Union Pacific* to Omaha (1914 m.). The *Kansas Pacific*, from Cheyenne through Denver, terminates at Kansas City. The *Southern Pacific* extends from San Francisco through southern California and Arizona to Deming in New Mexico, and thence by the *Atchison, Topeka, and Santa Fe* to Kansas City. It is connected with New Orleans by the *Texas Pacific* and by *Galveston, Harrisburg, and San Antonio*. From Omaha, Kansas City, and St. Paul a number of important roads extend these great transcontinental routes to the Mississippi and the Great Lakes. Among these are the *Chicago, Burlington, and Quincy*, the *Chicago, Rock Island, and Pacific*, the *Chicago and Northwestern*, the *Chicago and Alton*, and the *Wabash, St. Louis, and Pacific*.

The *Chicago, Milwaukee, and St. Paul* and the *St. Paul, Minneapolis, and Manitoba* are parts of a system of important lines connecting the chief ports on Lake Michigan with the great wheat region lying between that lake and the Upper Missouri and extending into Manitoba. Texas, California, and Oregon also have important lines.

WATER-WAYS. VI.—The principal interior water-ways of the United States are the Atlantic System, the Mississippi System, the St. Lawrence and the Great Lakes, and the Canals.

1. **Atlantic System.**—The rivers of the Atlantic system are connected with the extensive coasting trade. They are navigated by thousands of sailing vessels and steamers. A fall or a rapid at the head of navigation is usually the seat of a manufacturing city or town.

NOTE.—The entrances of the rivers of the Atlantic system are more or less obstructed by broad banks or shoals of mud and sand, brought down by the rivers and deposited in the sea just at their mouths. These shoals are called *bars*. They frequently make it dangerous and sometimes impossible for vessels to enter even at high tide. Most of the rivers between Chesapeake Bay and the Rio Grande can be entered only by vessels of very light draught. The Mississippi admits the largest ocean steamers.

2. **Mississippi System.**—The Mississippi has fifty-five great tributaries, nearly all of which have navigable branches. Numerous steamboats and barges furnish cheap transportation for the bulky products of the valley.

NOTE.—The Mississippi system has nearly 17,000 miles navigable by steamboats, and more than 20,000 by barges. The waters of the great river and its branches are subject to great changes of level, in consequence of the annual floods and droughts. Below the mouth of the Ohio the Mississippi sometimes rises more than fifty feet. At low water some of the branches can be navigated only by steamers of light draught, and some not at all for several months.

3. **The St. Lawrence and the Great Lakes.**—The Great Lakes are fresh-water seas, and are traversed by a great number of sailing vessels as well as numerous large steamers. They are closed for several months by ice, but are not affected by tides, floods, or droughts.

4. **Canals.**—The Great Lakes are connected with the Mississippi and Atlantic systems by canals. The Erie Canal in New York is the only one of any present importance. A short ship-canal in Michigan enables vessels to pass the falls at the entrance of Lake Superior. The Falls of Niagara and the rapids in the St. Lawrence are passed by means of ship-canal in Canada.

NOTE.—A number of important ship-canal have recently been proposed: one to connect the Hudson and Lake Champlain with the St. Lawrence, others to connect the Ohio with the James and the Potomac, the Tennessee with the Alabama and the Altamaha, the Illinois and the Wisconsin with Lake Michigan, and the Minnesota River with the Red River of the North.

Questions. I.—What are trunk lines? How may the trunk lines of the United States be divided?

II.—Where are the principal eastern trunk lines? How many are there? Name them. Why important?—Describe the following roads.*—1. Grand Trunk?—2. New York Central and Hudson River?—3. New York, Lake Erie, and Buffalo?—4. New York, Lake Erie, and Western?—5. Pennsylvania? New Jersey?—6. Baltimore and Ohio?

III.—Where are the central trunk lines? Name the most important of these lines. Describe them.*—1. Michigan Central?—2. Lake Shore and Michigan Southern?—3. Wabash, St. Louis, and Pacific?—4. New York, Pennsylvania, and Ohio?—5. Pittsburgh, Fort Wayne, and Chicago?—6. Pittsburgh, Cincinnati, and St. Louis?—7. Cincinnati, Washington, and Baltimore? Ohio and Mississippi?—8. Illinois Central?—9. Chicago and Alton?

IV.—How many groups of southern trunk lines?—1. Describe the first group.—2. The second.—3. The third. What is the chief business of these lines?

V.—Where do the western trunk lines mostly lie? Describe the transcontinental routes. The *Chicago, Milwaukee, and St. Paul*, and the *St. Paul, Minneapolis, and Manitoba*. What is said of other western lines?

VI.—How are the interior water-ways of the United States divided?—1. With what trade are the Atlantic rivers connected? By what navigated? Of what is a fall or rapid at the head of navigation usually the seat?—2. What is said of the branches of the Mississippi? By what navigated? What is said of the importance of the system? Of the mouth of the Mississippi?—3. Of the Great Lakes? What effect has winter upon all the northern water-ways?—4. How are the first three systems connected? Which is the most important of these canals? Where are the ship-canal?

* Ask the following questions about each of these roads: In what state or states? Between and through what cities? With what other trunk lines connected?



QUESTIONS ON THE MAP.

What great railroad terminates at Portland, Me.? Through what foreign country does it pass? What lake-port of Michigan is at its western end? What railroads in the central part of the state of New York? Between what two cities are they? Which of these is a lake-port? What road connects Albany with Boston? With New York? What road in the southern part of New York? What sea-port at its eastern end? What lake-port at its western end? What road between Philadelphia and Pittsburgh? Baltimore and Wheeling? What is the general direction of these six great roads?

What lake-port is the chief railroad centre of Illinois? What road connects Chicago with Detroit? Of what great eastern roads is the Michigan Central an extension? What road connects Chicago with Buffalo? Through what other lake-ports does the Lake Shore and Michigan Southern pass? With what great railways does it connect in New York? What road from Chicago to Pittsburgh passes through Fort Wayne? Of what Pennsylvania road is it a continuation? What road from Chicago passes through Wheeling to Baltimore? What road from Pittsburgh runs through Columbus and Indianapolis to St. Louis? To what other port on the Ohio has it a branch from Columbus? What road from Toledo passes through

Springfield, Illinois? To what two cities on the Mississippi? What road runs north from Cairo? Where does it fork? In what city does the eastern branch terminate? The western branch? What road connects St. Louis with Chicago? With Indianapolis and Pittsburgh? With Cincinnati?

What road connects Chicago with Omaha? With what more western road does it connect? What road continues the Union Pacific from Ogden to San Francisco? What road extends east from Denver? At what city does a branch from Denver join the Union Pacific? What city on the Missouri at the eastern end of the Kansas Pacific? What road connects Kansas City with Deming? Deming with San Francisco?

What large city on the Mississippi is connected by railroad with Kansas City? What road runs south-west from St. Louis? To what gulf-port does it form part of a line? What other road forms part of a line from St. Louis and Cairo to Galveston? Through what states does this line run?

What road runs south from Richmond? To what port? Between Richmond and Atlanta? Norfolk and Chattanooga? Louisville and Memphis? Louisville and Mobile? Cairo and New Orleans? Mobile and Charleston? Memphis and Charleston?

What color on this map shows how far a river is navigable? In which half of the United States are nearly all the navigable rivers? Nearly all the rail-

roads? Why can most of the rivers of the Atlantic coast be ascended only a short distance? In what part of the United States are the longest navigable rivers? Name the chief navigable rivers of the North Atlantic States. Of the Middle Atlantic. The South Atlantic. The South Central. The North Central. The West Central. What rivers of the western half of the United States are partly navigable? Which is the most important navigable river of Canada?

What three states contain nearly all the canals? (New York, Pennsylvania, and Ohio.) Which is the principal canal? (The Erie.) What waters does it connect? What other canals are connected with the Hudson River? (The Champlain and Hudson and

the Delaware and Hudson.) What port on Lake Ontario is at the mouth of a branch of the Erie Canal? On Lake Erie at the mouth of the Erie Canal? At the mouth of a canal from Pittsburgh? From Portsmouth, Ohio? From Cincinnati? From Evansville? How many canals connect the Ohio River with Lake Erie? What river of Illinois is connected by canal with Lake Michigan? At what port?

NOTE.—It is proposed to unite the following waters by ship-canal: A. (see map) Lake Champlain and the St. Lawrence. B. Ottawa River and Georgian Bay. C. Lake Ontario and Georgian Bay. D. James River and the Kanawha. E. The Tennessee River and the Ohio. F. The Tennessee and the Alabama. G. The Wisconsin and the Fox. H. The Minnesota and the Red River of the North.

LXVII.

QUESTIONS ON THE MAP.

General.—What province of the Dominion of Canada is a peninsula? What one north of Nova Scotia is an island? What one is west of Prince Edward Island? Northwest of New Brunswick? West of Quebec? West of Ontario? On the Pacific? What districts border on Manitoba? On British Columbia? What is the capital of the Dominion? (*Ottawa.*) Where situated? What large island east of the Dominion? (*Newfoundland.*) What provinces and districts are crossed by the Canadian Pacific Railway?

Nova Scotia.—What island in the eastern part of Nova Scotia? What four capes on the coast? What bay west? What city is the capital? What town on Northumberland Strait?

Prince Edward Island.—What waters surround Prince Edward Island? What town is the capital?

New Brunswick.—What three boundary rivers has New Brunswick? Which is the principal river? What cities on it? What bay on the north? On the south? What city is the capital?

Quebec.—In the valley of what river does the Province of Quebec lie? What river separates Quebec from Ontario? What branch of the St. Lawrence is the outlet of Lake Champlain? Name the two chief cities on the St. Lawrence. Which is the capital?

Ontario.—What lakes border on the Province of Ontario? In what part is the peninsula? What bay north of the peninsula? What lake in the peninsula? What cities on or near Lake Ontario? Which is the capital? What city southwest of Hamilton?

Manitoba.—What river enters Manitoba from the south? What large lakes in this province? What is the capital?

British Columbia.—What mountains form part of the eastern boundary of British Columbia? What is the capital? Which is the principal river? What islands on the coast? What waters surround Vancouver Island? What town on Frazer River?

Northwest and Northeast Territories.—What is the capital of Assiniboia? Of Saskatchewan? What river flows into Winnipeg Lake from the west?

Newfoundland.—What waters surround Newfoundland? What city is the capital? What capes on the coast? What small islands south?

LXVIII.

REVIEW EXERCISES.

Countries.—*Where is it? How bounded? What is the capital?*

Provinces.	Area in Sq. Miles.	Population in 1881.	Provinces.	Area in Sq. Miles.	Population in 1881.
Nova Scotia.....	21,000	440,572	Territories of Athabasca, Alberta, Saskatchewan, Assiniboia, and Keewatin	—	75,000
Prince Edward.....	2,100	108,891			
New Brunswick.....	27,000	321,233			
Quebec.....	189,000	1,359,027			
Manitoba.....	123,000	65,954			
British Columbia....	341,000	49,459	Northeast Territories.	—	—
Ontario.....	102,000	1,923,228	Newfoundland.....	40,200	181,733

Cities and Towns.—*In what part of the province? How situated?*—OTTAWA? HALIFAX? PICTOU? FREDERICKTON? St. John? CHARLOTTE TOWN? QUEBEC? Montreal? TORONTO? Hamilton? London? Kingston? WINNIPEG? New Westminster? VICTORIA? ST. JOHNS? BATTLEFORD? REGINA?

Islands.—*Where situated?*—Newfoundland? St. Pierre? Miquelon? Prince Edward? Cape Breton? Vancouver? Queen Charlotte?

Capes.—*From what coast does it project?*—Race? Bauld? Ray? North? Canso? Sable? Breton?

Gulfs and Bays.—*Where is it?*—St. Lawrence? Fundy? Chaleur? Georgian? Georgia?

Straits.—*Between what lands? What waters does it connect?*—Belle Isle? Northumberland? Juan de Fuca? Queen Charlotte Sound?

Rivers.—*Where does it rise? In what direction does it flow? Into what body of water?*—St. John? St. Lawrence? Richelieu? Ottawa? Saskatchewan? Frazer? St. Croix? Restigouche? Red River of the North?

Lakes.—*Where situated? What outlet?*—Winnipegosis? Winnipeg? Manitoba? Simcoe?

BRITISH AMERICA.

LXIX.

CANADA AND NEWFOUNDLAND: DESCRIPTION.

1. **Divisions.**—British America comprises about one third of the continent of North America, together with many adjacent islands. Its chief divisions are the Dominion of Canada and the Province of Newfoundland.

Besides these there are the Bermudas, the Bahamas, Jamaica, and many other colonies in the West Indies.

2. **The Dominion of Canada** has an area of about three and a half millions of square miles, or nearly the same as that of the United States. Its population is about four and one third millions.

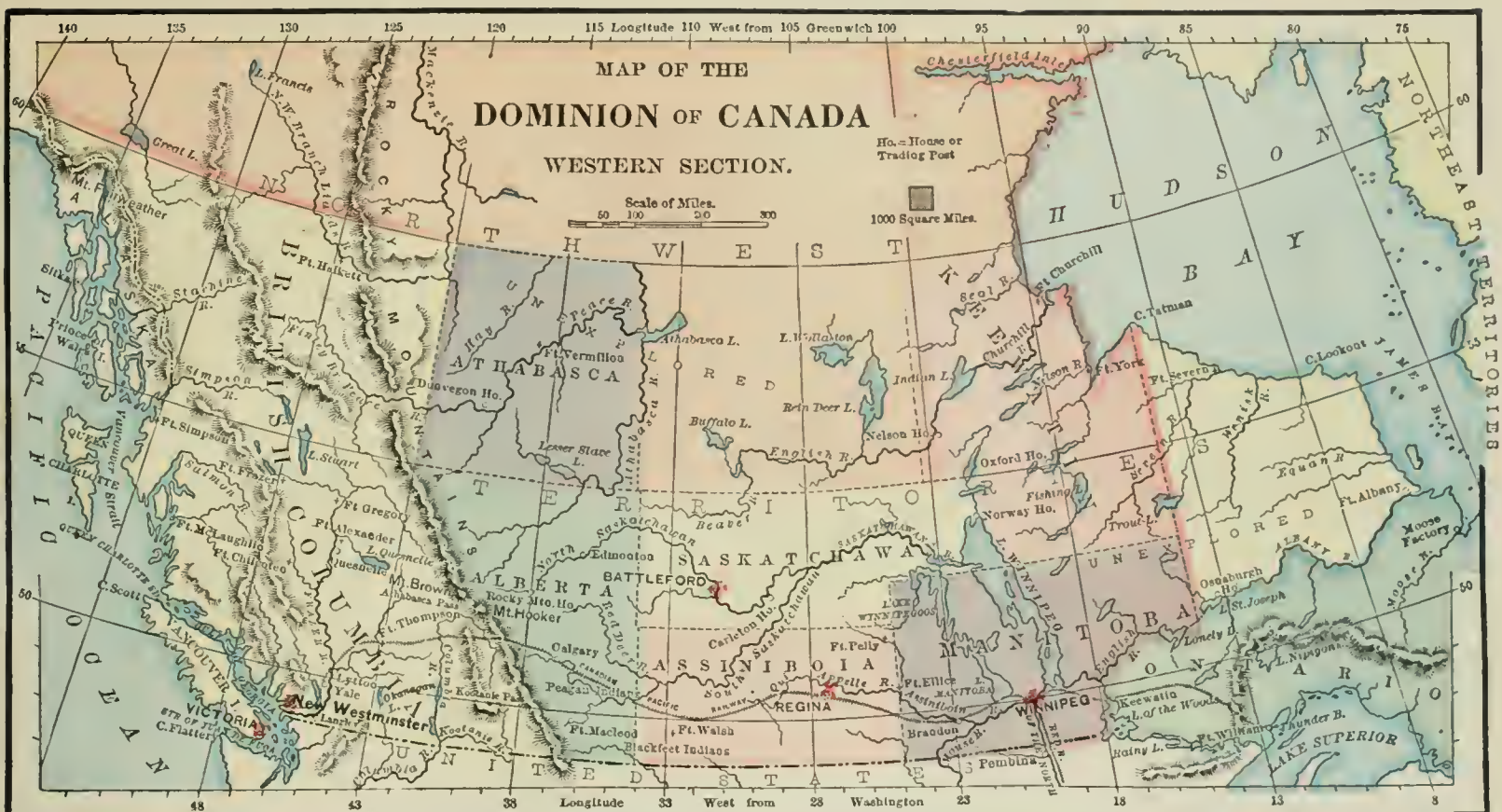
It is a confederation, consisting of the provinces of Quebec, Ontario, New Brunswick, Nova Scotia, Prince Edward Island,

British Columbia, Manitoba, and the Northeast and Northwest Territories or Districts. Newfoundland is not included in the confederation.

3. **Government.**—The chief executive officer is the Governor-General, who is appointed by the sovereign of Great Britain. The Legislature consists of two branches. The members of the lower branch are elected by the people; the members of the other branch are appointed by the Governor-General. Each province has a similar government under a Lieutenant-Governor.

4. **Climate.**—The winter climate is severe, except in the southern parts of British Columbia and of Ontario.

5. **Surface.**—British Columbia and the provinces east of Manitoba are great forest regions. Between the Rocky Mountains and Manitoba are extensive prairies.





ST. LAWRENCE RIVER.

6. Commercial routes.—The chief commercial water route is the St. Lawrence and the Great Lakes.

The rapids of the St. Lawrence above Montreal, and the falls of the Niagara and St. Marys rivers, are passed by means of canals; the St. Marys Canal is in the United States.

The Grand Trunk Railroad passes from Detroit, Mich., through the chief cities of the Dominion and down the St. Lawrence to Quebec, with a branch to Portland, Maine. In winter the communication of the interior with the ocean is through the United States.

7. Trade.—The principal trade of the provinces is with Great Britain and the United States. The chief exports are fish, coal, grain, and lumber.

8. Nova Scotia.—Nova Scotia has many good harbors and valuable fisheries, and exports sheep, coal, and gypsum, or plaster of Paris. Halifax, the capital and largest city, is an important British naval station.

9. Prince Edward Island.—Prince Edward Island has a fertile soil, and agriculture is the leading occupation. Charlotte Town is the capital.

10. New Brunswick.—New Brunswick is noted for its timber forests. Its chief exports are lumber and fish. St. John is the principal city. Fredericton is the capital.

11. Quebec.—The Province of Quebec is noted for its picturesque scenery and severe climate.

Montreal, the chief city, and, after Chicago and Buffalo, the largest in the St. Lawrence basin, has an extensive commerce, and exports a large amount of grain to Europe. Quebec, the capital, is the second city in population, and has a large maritime commerce.

12. Ontario.—Ontario produces a great amount of grain and lumber. Toronto, the capital and largest city, has a fine harbor and a large lake trade.

13. Manitoba.—Manitoba is noted for the production of wheat. The population is rapidly increasing by immigration. Winnipeg is the capital and chief town.

The Red River of the North, a navigable stream flowing from the United States, is the best water way to the province. It is connected through Winnipeg and other large lakes with Saskatchewan River. Together they furnish more than 2000 miles of inland navigation through one of the most fertile sections of the continent.

14. British Columbia.—British Columbia abounds in salmon, timber, and coal, gold, and other metals. New Westminster is an important town. Victoria is the capital.

British Columbia will soon be connected with the eastern provinces by the Canadian Pacific Railway, a grand transcontinental line about three thousand miles long, from Montreal to the Pacific Ocean.

15. Northeast and Northwest Territories, or Districts.—Athabasca, Alberta, Saskatchewan, and Assiniboia are Provisional Districts. The number of inhabitants is small, but is gradually increasing by emigration from Europe.

16. Newfoundland.—Newfoundland is a sterile, rocky island, and has a bold and broken coast. The ocean fisheries are almost the only source of support to the inhabitants. The chief exports are cod-fish, seal-skins, and oils.

The fish are caught near the coasts, and in shallow places in the sea, which are called banks. During a large part of the year the coasts and the banks are covered with dense fogs.

St. Johns is the capital and chief town.

Its population varies from 10,000 during the winter to 25,000 or even 30,000 during the fishing-season.

Labrador, a name properly applied only to the eastern shore of the peninsula, belongs to Newfoundland. Its fisheries find employment for about 1000 small vessels and 30,000 men.

Questions (1.)—1. What does British America comprise? What are its chief divisions?—2. What is the area of the Dominion of Canada? Its population?—3. Describe the government.—4. The climate.—5. The surface.—6. What is the chief commercial water-route?—7. With what countries is the principal trade of the provinces? What are the chief exports?—8. What is said of Nova Scotia? Halifax?—9. Of Prince Edward Island? What is the capital?—10. For what is New Brunswick noted? What are its chief exports? What is the principal city? The capital?—11. For what is the Province of Quebec noted? Montreal? The city of Quebec?—12. What are the productions of Ontario? For what is Toronto noted?—13. What is said of Manitoba? What is the capital?—14. In what does British Columbia abound? What important town? The capital?—15. What are Northeast and Northwest Territories?—16. What is Newfoundland? What is the character of the coast? What is the principal business? The chief exports? The capital?

(11.)—1. What other colonies has British America?—2. What is the Dominion of Canada? Of what does it consist? What large island is not included in the confederation?—6. What is said of the rapids and falls in the rivers of this route? What railroad forms another great commercial route? What is the channel of trade in the winter?—13. What is said of the Red River of the North?—14. With what states are the chief commercial interests of British Columbia? What connection with the Great Lakes is proposed?—16. Where are the fishing-grounds of Newfoundland? What is said of the fogs? Of the population of St. Johns? To what province does Labrador belong? What is said of its fisheries?

MEXICO; CENTRAL AMERICA; WEST INDIES.

[For Sections LXX. and LXXI., see page 73.]

LXXII.

MEXICO: DESCRIPTION.

1. Area and Population.—The area of Mexico is about one eighth less than that of all the United States east of the Mississippi. The population is about 10,000,000.

2. Surface.—The great plateau of North America covers most of the country, the highest part being near the Isthmus of Tehuantepec.

The plateau is here crossed by a line of thirteen volcanoes, which are among the loftiest in the world; Popocatepetl and Orizaba are over 17,000 feet in elevation, and their tops are covered with snow.

3. Climate.—Mexico has the greatest possible variety of climate: cold on the high mountains, temperate on the plateaus, and hot and moist on the coast.

The plateaus north of the Tropic of Cancer are dry and barren, like those of the United States. Those south of the tropic have four months of tropical rains.

4. Inhabitants.—The inhabitants are chiefly in the southern half of the country, and consist of Indians, mixed races, and Spanish creoles.

The creoles are descendants of the early Spanish settlers, and form only a small part of the population.

5. Commerce.—The foreign commerce is limited, and is mostly with England and the United States.

There are no navigable rivers. The best harbors are on the coast of the Pacific. Mexico has about 3000 miles of railroad. The National Mexican line extends from Vera Cruz to Mexico.

6. Government.—Mexico is a federal republic of twenty-seven states, one territory, and a small federal district which contains the capital. It was for three centuries the most important colony of Spain.

7. Mexico, the capital and chief city, is beautifully situated in a fertile plain, 7500 feet above the sea, and



POPOCATEPETL, MEXICO.

surrounded by lofty mountains. Leon, Guadalajara, Puebla, and Guanajuato are large cities on the table-land; Vera Cruz and Acapulco are the principal ports. The chief exports are silver, dyewoods, cochineal, and vanilla.

The mines of Mexico were the chief source of the world's supply of silver for nearly three hundred years.

Questions (I.)—1. What is the area of Mexico? The population?—2. What is said of the surface?—3. Of the climate?—4. Where are most of the inhabitants? Of what do they consist?—5. What is said of the foreign commerce?—6. Describe the government. Of what country was Mexico once a colony?—7. What is the capital and chief city? How situated? What other important cities? What are the principal ports? What are the chief exports?

(II.)—2. By what is the southern part of the plateau crossed?—3. What is the climate of the plateaus north of the Tropic of Cancer? South of it?—4. Who are the creoles?—5. What is said of the roads, rivers, and harbors?—7. What is said of the silver-mines?

LXXIII.

CENTRAL AMERICA.

Republics.	Area in Sq. Miles.	Population.	Republics.	Area in Sq. Miles.	Population.
Guatemala.....	40,800	1,227,000	Nicaragua.....	58,200	300,000
San Salvador.....	7,400	482,422	Costa Rica.....	21,500	185,000
Honduras.....	47,100	351,700	Belize (Colony)....	13,500	24,710

1. Central America, as a natural division, is a long isthmus. It includes the smaller isthmuses of Panama in South America and Tehuantepec in Mexico.

It is chiefly important because it contains the principal routes connecting the commerce of the two great oceans.

2. As a political division it is of less extent. It includes five independent republics, which are really military despotisms: viz., Guatemala, Honduras, San Salvador, Nicaragua, and Costa Rica, together with Belize, or British Honduras, which is a colony of Great Britain.

3. These republics are similar to Southern Mexico in surface, climate, productions, population, and social condition.

The Andes Mountains extend the entire length of the isthmus, and connect the mountains of South America and the Sierra Madre. They abound in volcanoes.

4. **There are no navigable rivers except the San Juan.**

This river and Lake Nicaragua, of which it is the outlet, have been proposed as the chief part of a ship canal between the oceans.

5. The foreign commerce is very limited, and is mostly with England. Coffee, rubber, indigo, cochineal, cabinet-woods, and dye-woods are the chief exports.

6. The capitals of the several republics are Guatemala, San Salvador, Tegucigalpa, Managua, and San José.

Questions (I.)—1. What is Central America? What does it include?—2. What does it include as a political division? Name the republics.—3. In what are they similar to Mexico?—4. What is said of the rivers?—5. Of the foreign commerce? Which are the most important exports?—6. Name the capitals of the five republics.

(II.)—1. Why is Central America important?—2. What are its principal mountains? What is said of them?—3. What are its principal mountains?—4. Why is the San Juan River important?

LXXIV.

THE WEST INDIES.

1. **Situation.**—The West Indian Archipelago extends from Florida to South America.

The islands are the summits of mountain ranges which are partly under the sea, and parallel to the great chains of the western continents.

2. **Area.**—The land surface of the archipelago is about equal to that of New York and Pennsylvania.

3. **Divisions.**—The Bahamas, the Greater Antilles, and the Lesser Antilles are the three principal divisions.

The Bahamas are low coral islands. One of them, San Salvador, is said to be the first land discovered by Columbus in 1492.

LXX.

QUESTIONS ON THE MAP.

Mexico.—What country north of Mexico? What country southeast? What gulf in the northwest? What peninsula? What gulf east? What bay? What peninsula in the southeast? What isthmus in the southern part of Mexico? What gulf? What mountain chain extends through Mexico? What river forms part of the northeast boundary? What city is the capital? Name the seaports of the eastern coast. Of the Pacific coast. What city near the mouth of the Rio Grande? What city southeast of Mexico? What three northwest? What two in the northern part of Mexico?

Central America.—Name the divisions of Central America. Which is farthest south? Farthest north? What British colony northeast of Guatemala? What is the capital? What bay north of Honduras? What name is given to the eastern coast of Nicaragua? What two lakes in Nicaragua? What is the outlet of Lake Nicaragua? Name the capital of each state.

West Indies.—What are the three principal divisions of the West Indies? (*Greater Antilles, Lesser Antilles, and the Bahamas.*) Name the four Greater Antilles. Which is the largest group of the Lesser Antilles? What group near the coast of South America? What small group east of Porto Rico? What islands north of Cuba? What town is their capital? On what island? What city is the capital of Cuba? What city east of Havana? On the southern coast? What strait between Cuba and Florida? Between Cuba and Yucatan? Cuba and Hayti? What

The Greater Antilles have forest-clad mountains and a fertile soil. The Lesser Antilles include all the islands between Porto Rico and South America; several of them contain lofty volcanoes.

4. **Climate.**—All these islands, except a portion of the Bahamas, are in the Torrid Zone. The intense heat of the tropical climate is modified by the ocean and the trade-winds.

5. **Productions.**—The principal exports are sugar, coffee, cotton, tobacco, and tropical fruits. Most of the fruits come from Cuba, which is also the chief sugar-producing country of the world.

6. **Ownership.**—Cuba and Porto Rico are colonies of Spain; Jamaica, the Bahamas, and most of the Lesser Antilles belong to Great Britain; the rest to France and other European countries. Hayti was once divided between France and Spain; it now consists of two independent negro republics—Hayti and San Domingo.

7. **Population.**—The total population of the West Indies is about equal to that of the State of New York, the greater part being negroes.

8. The three largest cities, Havana, Matanzas, and Santiago de Cuba, are all in Cuba. Havana, the capital of Cuba, is larger than any six other cities in the West Indies.

Questions (I.)—1. Where is the West Indian Archipelago?—2. What is its area?—3. Name its principal divisions.—4. In what zone are they? What is said of the climate?—5. What are the principal exports? For what is Cuba noted?—6. To what countries do the West Indies belong? To what two countries did Hayti once belong? Of what does it now consist?—7. What is said of the population of the West Indies?—8. Where are the three largest cities? Name them. What is said of Havana?

(II.)—1. What are the islands of the West Indian Archipelago?—2. What is said of the Bahamas? Of San Salvador? Of the Greater Antilles? Of the Lesser Antilles?

two countries in Hayti? Name their capitals. What strait separates Hayti from Porto Rico? What is the capital of Porto Rico? What island nearly west of Hayti? Its capital? What other city in Jamaica?

LXXI.

REVIEW EXERCISES.

Countries.—Where is it? How bounded? What is the capital?—Mexico? Belize, or British Honduras? Guatemala? Honduras? San Salvador? Nicaragua? Costa Rica? San Domingo? Hayti?

Islands.—Where situated?—The Greater Antilles? Cuba? Hayti? Porto Rico? Jamaica? The Bahamas? The Lesser Antilles? Virgin Islands? Caribbe Islands? Venezuelan Islands?

Gulfs and Bays.—Where is it?—California? Mexico? Campeachy? Honduras? Tehuantepec?

Straits.—Between what lands? What waters does it connect?—Yucatan? Florida? Windward? Mona?

Cities and Towns.—In what part of the state? How situated?—Mexico? Leon? Guadalajara? Puebla? Guanajuato? Vera Cruz? Tampico? Matamoras? Guaymas? Acapulco? GUATEMALA? SAN SALVADOR? TEGUCIGALPA? MANAGUA? SAN JOSÉ? HAVANA? Santiago de Cuba? Matanzas? PORT AU PRINCE? SAN DOMINGO? KINGSTON? Spanish Town? SAN JUAN? NASSAU? BALIZE?



PHYSICAL MAP OF
SOUTH AMERICA.

Scale of Miles.
0 100 200 300 400 500 1000





PHYSICAL SOUTH AMERICA.

LXXV.

QUESTIONS ON THE MAP.

Through what part of South America does the Equator pass? In what zone is the greater part of the continent? What tropic crosses it? What cape at its northern extremity? Its eastern extremity? Southern? Western?

Along which coast is the belt of highest mountains and narrow plateaus? What name is given to the broadest part of the plateau of the Andes? What lakes in it? What broad plateau in the eastern part of the continent? What mountain ranges in this plateau? What smaller plateau in the north? What mountains are in the plateau of Guiana? In what part of South America are the volcanoes?

What name is given to the northern part of the Great Central Plain? With what are they covered? What river drains the llanos? What name is given to the central part of the Great Plain? With what are they covered? What river drains the selvas? What island at its mouth? What river east of Joannes Island? What name is given to the southern part of the Great Plain? What river drains a large part of the pampas?

What branch of the Amazon is connected with the Orinoco? What branches drain the plateau of Brazil? What branch of the Para? What river drains the eastern part? What two the southern part? Which of these is the main river? What name is given to the forest region

between the Paraguay and the Madeira? To the plain between the Matto Grosso and the pampas? Where is the rainless coast? How long is it?

What metals are obtained from the Andes? What two valuable minerals from the plateau of Brazil? How many principal diamond districts? What valuable woods are obtained from the forests of the Amazon and its branches? What gum? What vegetable productions from the northern coast? From the eastern coast? What grain from the southwestern coast? What animal products from the pampas and Southern Brazil? What valuable manure from the rainless coast? From what islands is it obtained?

NOTE.—It will assist to memorize the physical maps of both the American continents to note the following points of similarity:

Shape of continents.			Position of the three coast lines.		Volcanoes on the west.
Rocky and Nevada Mountains.	Appalachian Mountains.	Western Plateau Belt.			
Andes chains.	Brazilian Mountains.	Andes Plateau Belt.			
Great Basin.	Great Salt Lake.	Labrador.			
Plateau of Bolivia.	Lake Titicaca.	Plateau of Guiana.			
Eastern Highland.	Central Plain.	Arctic Plain.	Great Lakes.	Southern Plain.	
Plateau of Brazil.	Central Plain.	Llanos.*	Selvas.†	Pampas.‡	
Mackenzie River.	Nelson.	St. Lawrence.	Mississippi.		
Magdalena.	Orinoco.	Amazon.	La Plata.		

* Llanos, a Spanish word meaning *plains*. † Selvas, from a Latin word meaning *woods*. ‡ Pampas, an Indian word meaning *plains*. *El Gran Chaco*, means the great hunting-ground.



PROFILE SECTION OF SOUTH AMERICA.

DESCRIPTION.

LXXVI.

OUTLINE, SURFACE, ETC.

1. **Outline.**—South America is nearly a right-angled triangle, of which the Pacific coast is the longest side. It is nearly twice the size of the United States, and has a population of about 33,000,000.

Its coasts are unbroken by great gulfs or by enclosed seas.

2. **Surface.**—The surface of South America is naturally divided into four parts—the Andean plateau on the west, the plateaus of Brazil and Guiana on the east, and the Great Central Plain. The Andes Mountains stretch along the entire western coast, generally in parallel chains. Between them is a belt of plateaus, the broadest and loftiest being that of Bolivia.

These gigantic border walls of the plateaus are the loftiest ranges in America, and are exceeded in height only by the great chains of Central Asia. They are highest in the northern portion of the table-land of Bolivia, where the loftiest peaks reach an elevation of 25,000 feet. They are unbroken, except at the Isthmus of Panama, where the western chain subsides into low hills, and towards the southern extremity of the continent, where the mountainous coast becomes a line of rocky islands. The Andes contain several groups of lofty volcanoes.

3. The Great Central Plain extends along the whole eastern base of the Andes.

This plain extends eastwardly to the shores of the Atlantic, except where interrupted by the low mountains and plateaus of Guiana and Brazil.

Three great rivers, the Orinoco, the Amazon, and the La Plata, with their numerous branches, drain this plain and the mountain slopes which surround it.

The remarkable rain-fall of this region is due to the tropical rain-belt and the trade-winds which sweep westwardly from the Atlantic and across the continent.

4. The northern part of the Great Central Plain, the llanos of the Orinoco, is treeless and very flat. It is about four times the size of Ohio.

At the close of the tropical rainy season it is a vast meadow, and is called by the inhabitants the "Sea of Grass."

It supports millions of cattle and horses. Before the end of the dry season it has become a scorched and arid desert, swept by hot winds that whirl the dry soil into the air in dense clouds of dust. During the extreme drought the horses and cattle are driven to the foot of the mountains, and the great reptiles with which the plain abounds bury themselves in the mud of the drying pools, and await in a torpid state the return of the tropical rains.

5. The central part, the selvas of the Amazon, is by far the largest.

It is nearly covered with a dense forest of flowering trees, interwoven with gigantic vines, and alive with birds and insects of brilliant colors, and with millions of monkeys and other animals of the Torrid Zone; it is almost unoccupied by civilized man, and can be traversed only by means of the rivers. This great forest, the largest in the world, also spreads far up the sides of the mountains by which the plains are surrounded.



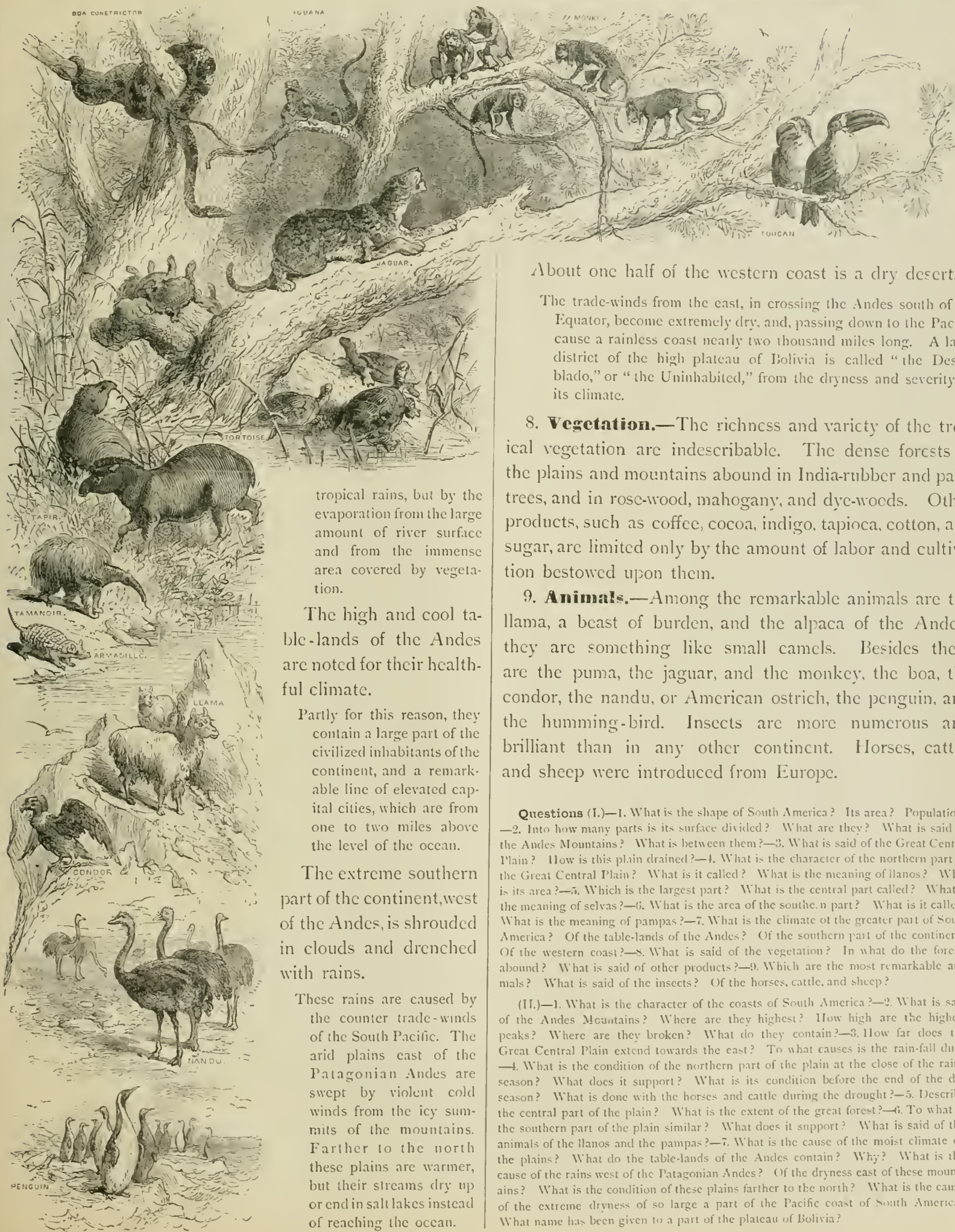
MONKEYS AND CROCODILE.

6. The southern part, the pampas of the La Plata, is more than three times as large as the llanos.

It is similar to the llanos in many respects, but is far colder towards the south. It supports vast herds of cattle and millions of sheep and horses. These animals constitute the chief wealth of the inhabitants of the llanos and the pampas, and determine their principal occupations and exports.

7. **Climate.**—The greater part of South America lies within the tropics, where its broad plains have a hot and moist, and therefore sickly climate.

The great moisture is caused not only by the trade winds and



About one half of the western coast is a dry desert.

The trade-winds from the east, in crossing the Andes south of the Equator, become extremely dry, and, passing down to the Pacific, cause a rainless coast nearly two thousand miles long. A large district of the high plateau of Bolivia is called "the Desplado," or "the Uninhabited," from the dryness and severity of its climate.

8. Vegetation.—The richness and variety of the tropical vegetation are indescribable. The dense forests of the plains and mountains abound in India-rubber and palm trees, and in rose-wood, mahogany, and dye-woods. Other products, such as coffee, cocoa, indigo, tapioca, cotton, and sugar, are limited only by the amount of labor and cultivation bestowed upon them.

9. Animals.—Among the remarkable animals are the llama, a beast of burden, and the alpaca of the Andes; they are something like small camels. Besides these are the puma, the jaguar, and the monkey, the boa, the condor, the nandu, or American ostrich, the penguin, and the humming-bird. Insects are more numerous and brilliant than in any other continent. Horses, cattle, and sheep were introduced from Europe.

Questions (I.)—1. What is the shape of South America? Its area? Population? —2. Into how many parts is its surface divided? What are they? What is said of the Andes Mountains? What is between them?—3. What is said of the Great Central Plain? How is this plain drained?—4. What is the character of the northern part of the Great Central Plain? What is it called? What is the meaning of llanos? What is its area?—5. Which is the largest part? What is the central part called? What is the meaning of selvas?—6. What is the area of the southern part? What is it called? What is the meaning of pampas?—7. What is the climate of the greater part of South America? Of the table-lands of the Andes? Of the southern part of the continent? Of the western coast?—8. What is said of the vegetation? In what do the forests abound? What is said of other products?—9. Which are the most remarkable animals? What is said of the insects? Of the horses, cattle, and sheep?

(II.)—1. What is the character of the coasts of South America?—2. What is said of the Andes Mountains? Where are they highest? How high are the highest peaks? Where are they broken? What do they contain?—3. How far does the Great Central Plain extend towards the east? To what causes is the rain-fall due?—4. What is the condition of the northern part of the plain at the close of the rainy season? What does it support? What is its condition before the end of the dry season? What is done with the horses and cattle during the drought?—5. Describe the central part of the plain? What is the extent of the great forest?—6. To what is the southern part of the plain similar? What does it support? What is said of the animals of the llanos and the pampas?—7. What is the cause of the moist climate of the plains? What do the table-lands of the Andes contain? Why? What is the cause of the rains west of the Patagonian Andes? Of the dryness east of these mountains? What is the condition of these plains farther to the north? What is the cause of the extreme dryness of so large a part of the Pacific coast of South America? What name has been given to a part of the plateau of Bolivia?

tropical rains, but by the evaporation from the large amount of river surface and from the immense area covered by vegetation.

The high and cool table-lands of the Andes are noted for their healthful climate.

Partly for this reason, they contain a large part of the civilized inhabitants of the continent, and a remarkable line of elevated capital cities, which are from one to two miles above the level of the ocean.

The extreme southern part of the continent, west of the Andes, is shrouded in clouds and drenched with rains.

These rains are caused by the counter trade-winds of the South Pacific. The arid plains east of the Patagonian Andes are swept by violent cold winds from the icy summits of the mountains. Farther to the north these plains are warmer, but their streams dry up or end in salt lakes instead of reaching the ocean.

LXXVII.

QUESTIONS ON THE MAP.

General.—What countries of South America border on the Caribbean Sea? On the Atlantic Ocean? On the Pacific? Through what countries do the Andes extend? What countries are drained by the Orinoco and its branches? By the Amazon? By the La Plata? What countries are crossed by the Equator? By the Tropic of Capricorn?

Brazil.—What countries border on Brazil? Which country of South America does not border on it? What river drains the northern part of Brazil? Which is its chief northern branch? Its chief southern branch? What island just south of the Equator? Between what two rivers? What mountains near the northern boundary? What mountain chains near the eastern coast? What river breaks through the Serro Espinhaco Mountains? What branches of the La Plata rise in Brazil? What city is the capital? What cape is near it? What city south of Cape St. Roque? On the Para? Between Para and Pernambuco? Between Pernambuco and Rio Janeiro? On what bay?

Guiana.—How many divisions in Guiana? To whom do they belong? What is the capital of each?

Venezuela.—What countries border on Venezuela? What sea on the north? What lake and what gulf in Venezuela? What large river? What island near its mouth? What city is the capital? What town is its port? What other port on the coast? What town on the Orinoco?

Colombia.—What countries border on Colombia? What cape at its northern extremity? What waters? Which is its chief river? What city near its mouth? What city is the capital? What city in the southwest? What isthmus in Colombia? What two ports on it? By what railroad are they connected? (See small map.)

Ecuador.—What countries border on Ecuador? What gulf on its shores? What volcanoes are in Ecuador? What city is the capital? How situated? What city is its port?

Peru.—What countries border on Peru? What lake partly in it? What cape in the northwest? What islands near Cape Blanco? What city is the capital? What city is the port of Lima? What city northeast of Lima? What city in the southwest? What city north of Arequipa?

Bolivia.—What countries border on Bolivia? What mountain near Lake Titicaca? What city is the capital? What other cities in Bolivia?

Chili.—What countries border on Chili? What country is partly included in the southern portion of Chili? (*Patagonia.*) To what country does the rest of Patagonia belong? What large island belongs to Chili? What small islands west? For what is one of these islands famous? (*For having been the solitary residence of Alexander Selkirk, whose story was afterwards written as Robinson Crusoe.*) What desert west of the Andes? In what part of Chili is the Desert of Atacama? What group of islands south of Patagonia? What group east? What cape south of Tierra del Fuego? What city is the capital

of Chili? What large city is its port? What port north of Valparaiso?

Argentine Confederation.—What countries border on the Argentine Confederation? What rivers form parts of its boundary? What city is the capital? What city near the centre? North of Cordova? South-east of Cordova? Near the Andes?

Uruguay.—What countries border on it? What rivers? What city is the capital?

Paraguay.—What countries border on it? What rivers form parts of its boundary? What city is the capital?

LXXVIII.

REVIEW EXERCISES.

Countries.—*Where is it? How bounded? What is the capital?*

Names.	Area in Sq. Miles.	Population.	Names.	Area in Sq. Miles.	Population.
Brazil.....	3,431,887	11,108,291	Ecuador.....	250,000	1,100,000
British Guiana...	88,497	248,110	Peru.....	448,000	3,300,000
Dutch Guiana...	47,710	63,525	Bolivia.....	518,920	2,000,000
French Guiana...	48,565	36,000	Chili.....	214,874	2,420,000
Venezuela.....	451,046	2,400,000	Argentine Confed.	1,164,387	2,540,000
United States of			Uruguay.....	74,728	438,245
Colombia	350,000	3,000,000	Paraguay.....	95,316	293,290

Cities and Towns.—*In what part of the country? How situated?*—CARACAS? La Guayra? Maracaybo? Angostura? BOGOTA? Poyayan? Cartagena? Panama? Aspinwall? QUITO? Guayaquil? LIMA? Callao? Pasco? Cuzco? Arequipa? Sucre? LA PAZ? Cochabamba? Potosi? SANTIAGO? Valparaiso? Coquimbo? BUENOS AYRES? Rosario? Mendoza? Cordova? Tucuman? MONTEVIDEO? ASUNCION? RIO JANEIRO? Bahia? Pernambuco? Maranhão? Para? GEORGETOWN? PARAMARIBO? CAYENNE?

Islands.—*Where situated?*—Trinidad? Joannes? Tierra del Fuego? Falkland? Chiloe? Juan Fernandez? Lobos Is.

Capes.—*From what coast does it project?*—Gallinas? St. Roque? Frio? Horn? Blanco?

Mountains.—*Where are they?*—Andes? Pacaraima? Serro Espinhaco? Cotopaxi (v.)? Chimborazo (v.)? Sorata?

Seas, Gulfs, and Bays.—*Where is it?*—Caribbean? Darien? Venezuela? All Saints? Guayaquil? Panama?

Rivers.—*Where does it rise? In what direction does it flow? Through what countries? Into what body of water?*—Magdalena? Orinoco? Amazon? Negro? Para? Madeira? San Francisco? La Plata? Uruguay? Parana? Paraguay?

Lakes.—*Where situated? What outlet?*—Maracaybo? Titicaca?

POLITICAL SOUTH AMERICA.

LXXIX.

DESCRIPTION.

1. South America, like the northern continent, was settled and occupied by emigrants from Europe.

Almost all of the civilized people are found in a broad band which surrounds the continent, and crosses its narrow southern part from Santiago to Buenos Ayres. The large cities of the northern and western countries are in the high and cool table-lands; those of the eastern are sea-ports of the Atlantic.

There are millions of Indians, the greater part of whom are half-civilized, the rest of them being savages.

2. South America has had a comparatively limited commerce. It is now rapidly increasing, especially in Brazil, Chili, and the Argentine Confederation.

The tropical climate and frequent civil wars have tended to repress commercial enterprise, and the grandest system of navigable rivers on the globe is as yet but little used. There are no good roads. Most of the railways are short, and extend from Buenos Ayres, Rio Janeiro, Santiago, and Lima.



The Panama Railroad crosses the isthmus. It is the most important railway in South America, being the shortest trade route between the Atlantic and the Pacific.

3. The countries of South America may be considered under three divisions: 1st, Portuguese South America, or the Empire of Brazil; 2d, the Guianas, or European colonies; and, 3d, Spanish South America, or the Republics.

4. **Portuguese South America.**—Brazil is the largest and most important country of South America.

It comprises more than two fifths of the continent, and is the only monarchy in the New World. It was once a colony of Portugal, and Portuguese is the language of the civilized inhabitants.

The population is mostly on or near the southeastern coast. The people are of three races—whites, Indians, and negroes, a large majority being of mixed races. Nearly all the negroes of South America are in Brazil and the Guianas.

Brazil has about 3000 miles of railroad. The Amazon and its tributaries furnish about 50,000 miles of navigable waters, as yet but little used. An ocean telegraph connects Brazil with Portugal, and another with the United States by way of the West Indies.

Other important ports of Brazil are Bahia, the second city, Pernambuco, Maranhão, and Pará.

5. **The Guianas** are colonies of Great Britain, France, and the Netherlands. The chief exports are indigo, cocoa, sugar, coffee, and other tropical productions. The ports of Georgetown, Cayenne, and Paramaribo are the capitals and the chief centres of commerce.

6. **Spanish South America** comprises nine independent republics, viz., Venezuela, Colombia, Ecuador, Peru, Bolivia, Chili, Argentine Confederation, Uruguay, and Paraguay. Each republic consists of a number of states under a general government, as in Mexico.

The Andean portion is so rugged that the back of an Indian or of a sure-footed mule is almost the only means of travel and traffic over the rude and dangerous mountain roads. In Peru, Chili, and Colombia, a few railroads have recently been constructed.

These republics were once colonies of Spain. The language spoken by the civilized inhabitants is Spanish.

In all the republics of Spanish America, from Mexico to Chili, the Spanish creoles are greatly outnumbered by the Indians and mixed races. This fact has an important influence upon the enterprise, commerce, and social and political condition of these countries.

7. **Venezuela.**—Venezuela exports coffee, cocoa, and other tropical products from La Guayra and Maracaybo on the Caribbean Sea, and the cattle products of the llanos from Angostura on the Orinoco. Caracas, the capital and largest city, is 3000 feet above the sea.

8. **The United States of Colombia.**—The United States of Colombia is the most important of the five northern republics.

This is due to its geographical position. It contains the Isthmus of Panama, which is the most direct route for the rapidly increasing commerce between the countries bordering the two great oceans. A short railroad from Panama to Aspinwall is now the route of this commerce. A great canal for the largest vessels is now under construction. It will shorten the ocean route between the Atlantic and Pacific coasts of the United States at least 10,000 miles. Its opening will constitute one of the most important commercial and political events in the history of the world.

The chief exports are Peruvian bark, from which quinine is derived.

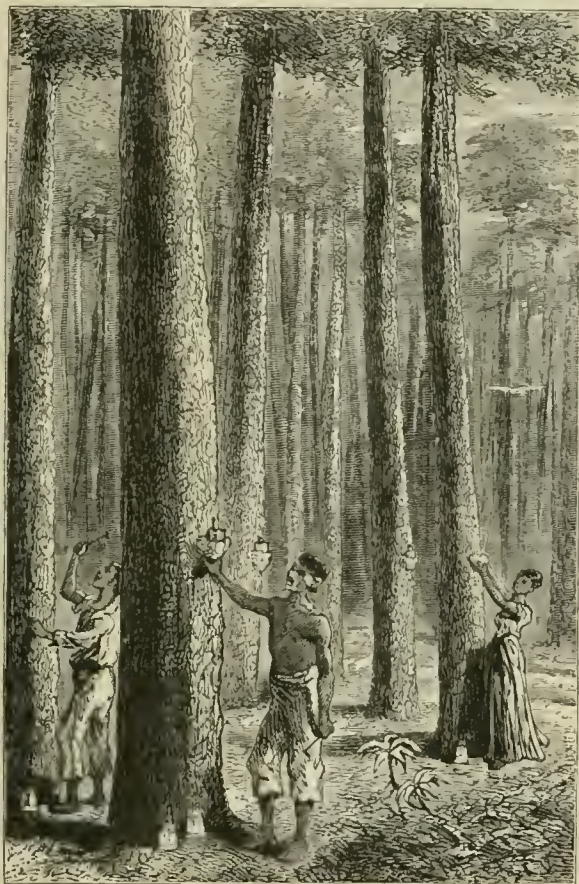


BRAZILIAN COFFEE PLANTATION.

Brazil furnishes the greater part of the coffee used in the world, besides cotton, sugar, hides, dye-woods, India-rubber, and diamonds; more than half of the coffee, the leading article of export, goes to the United States. The greater part of the entire South American trade of the United States is with Brazil. Rio Janeiro, sometimes called Rio, is the capital and largest city of Brazil, and is the most important port in the Southern Hemisphere.

nine is extracted, tobacco, and coffee. Bogota, the capital and largest city, is nearly 9000 feet above the sea; Popayan, the second city, is 6000 feet. Cartagena, Savanilla, Panama, and Aspinwall, also called Colon, are the chief ports.

9. **Ecuador.**—The exports of Ecuador are cocoa, India-rubber, Peruvian bark, and vegetable ivory nuts. Guayaquil is the chief port. Quito is the capital and largest city.



INDIA-RUBBER TREES.

10. **Peru.**—Peru has more miles of railroad than any other state of South America. Its chief exports are guano and silver.

Lima, the capital, is the largest city. Its sea-port is Callao.

Pasco, 13,000 feet above the sea, the most elevated city in the world, is surrounded with silver-mines. Cuzco and Arequipa are large cities. Lake Titicaca, on the borders of Bolivia, 13,000 feet above the sea, is the highest large mountain lake in the world. Its waters flow into Lake Aullagas in Bolivia.

11. **Bolivia.**—Bolivia, having no sea-coast and but little commerce, exports Peruvian bark and silver-ore through Buenos Ayres. The large cities Sucre, Potosi, Cochabamba, and La Paz, the capital, are all on the plateau.

12. **Chili.**—Chili is the most enterprising country of South America, and has a large proportion of European inhabitants. It has a coast-line of about 2500 miles. The chief exports are guano, saltpetre, copper-ore, silver, and wheat.

Guano is obtained from the Lobos Islands and other parts of the rainless coast; saltpetre from the southern part of the same region.

Santiago, the capital, is the largest city. Valparaiso, the second city, is the largest sea-port on the Pacific coast of America, excepting San Francisco.

Patagonia and Tierra del Fuego form the southern part of South America. The western portion of this extensive region belongs to Chili, the eastern to the Argentine Confederation. The native inhabitants are savage tribes.

13. **The Argentine Confederation.**—The Argentine Confederation stands next to Chili in enterprise.

Emigration from Southern Europe, and commerce, are increasing. Education is advancing more rapidly than in any other country in South America. The chief exports are wool, sheep-skins, hides, tallow, and other cattle products. Two thirds of the hides are sent to the United States. The capital, Buenos Ayres, is the largest city in South America, and a great sea-port. Other important cities, Rosario, Mendoza, Cordova, Tucuman, and Corrientes, are on the great trade-routes to Chili, Bolivia, and Paraguay.

14. **Uruguay.**—Uruguay is similar in its leading exports to the Argentine Confederation. Montevideo, the capital, has a large trade in cattle products.

15. **Paraguay.**—Paraguay is the weakest of the nine republics, and, like Bolivia, having no sea-coast, has but little commerce. Asuncion is the capital.

Questions (I).—1. By whom was South America settled?—2. What is said of its commerce? Of the Panama Railroad?—3. How may the countries of South America be considered? What are the divisions?—4. Which is the largest? What are the principal productions of Brazil? What is the extent of its trade with the United States? What city is the capital? For what is it noted? What other important ports?—5. To what countries do the Guianas belong? What are the chief exports? What cities are the capitals and centres of commerce?—6. What does Spanish South America comprise? Name them. Of what does each republic consist? What is said of the inhabitants of the republics of Spanish America? Why is this an important fact?—7. What are the exports of Venezuela? What city is the capital? What is said of it?—8. Of the United States of Colombia? What are the chief exports? What city is the capital? What is said of it? Of Popayan? What are the chief ports?—9. What are the exports of Ecuador? The chief port? What is the capital?—10. What is said of the railroads of Peru? What are the chief exports? What city is the capital? What is said of it? What is its sea-port?—11. What is said of the commerce of Bolivia? What are the exports? Which are the large cities? Where are they?—12. For what is Chili noted? What are the chief exports? What is the capital and largest city? For what is Valparaiso noted?—13. What is said of the Argentine Confederation? Of emigration and commerce? Of education? What are the chief exports? Where are most of the hides sent? What city is the capital? What is said of it? Which are the other important cities? Where are they?—14. What are the exports of Uruguay? What is the capital? What is said of it?—15. Of Paraguay? What is the capital?

(II).—1. In what part of South America are most of the civilized inhabitants? Where are the large cities? What is said of the Indians?—2. Why has South America so little commerce? What is said of the roads?—3. What is said of Brazil? Where is most of the population? Of what does it consist? Where are most of the negroes? What is said of the railroads of Brazil? Of the telegraphs?—4. What is said of the Andean portion of the Spanish Republics? Of what country were these republics once colonies? What language is spoken?—5. Why is Colombia the most important of the five northern republics? What commercial route does it contain? What is the present route of this commerce? What other route is being constructed? What is said of it?—6. For what is Pasco noted? Cuzco and Arequipa? Lake Titicaca? Where do its waters flow?—7. Where is guano obtained? Saltpetre? What country and group of islands form the southern part of South America? To what countries do they belong? What are the native inhabitants?



PHYSICAL MAP OF
EUROPE

Scale of Miles.



LXXX.

QUESTIONS ON THE MAP.

From what other continent does Europe project? In what direction? What continent south of Europe? What sea separates them? What strait at its entrance? What ocean west of Europe? What-ocean north? What is the southwestern part of Europe called? Nearly all the rest of the continent? In what zone is the greater part of Europe?

High Europe.—What three peninsulas project from High Europe? What is the peninsula of Spain sometimes called? (*The Iberian Peninsula*.) What plateau in the Iberian Peninsula? In what part of High Europe is it? What peninsula nearest to Asia? What one between Spain and Turkey? What mountains in the northern part of the peninsula of Spain? What mountains in Turkey? What mountains connect the Pyrenees with the Balkan? What mountains in southern Spain? In the Italian peninsula? On the northeastern border of High Europe? What smaller peninsula in the southwestern part of the peninsula of Turkey? What archipelago between Greece and southeastern Turkey? What sea between Turkey and Italy? What small sea between Asia and the Turkish peninsula?

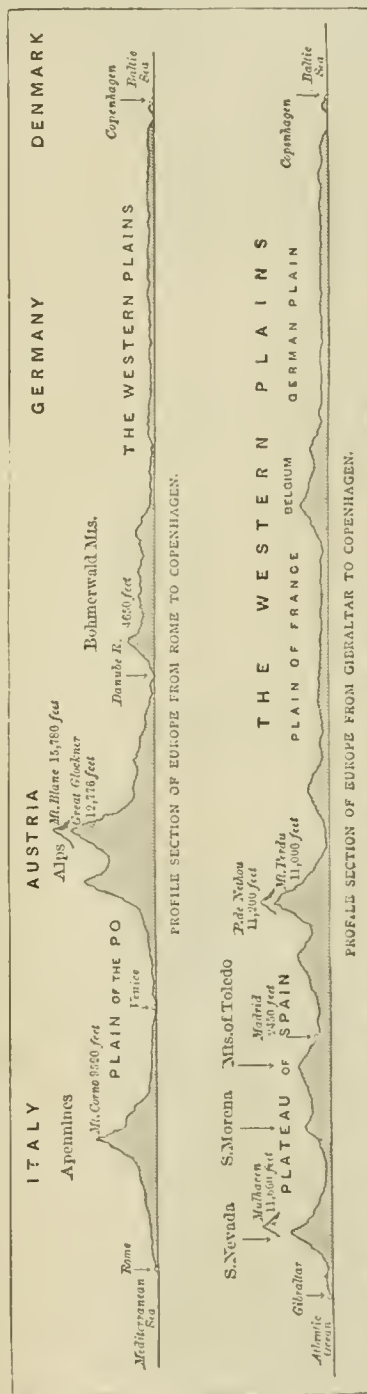
Low Europe.—What plain constitutes the greater part of Low Europe? What part of the Great Plain is cold and treeless? What part is covered with forests? Where are the prairie regions? The salt steppes? Where is the lake region?

What mountains form the eastern border of the Great Plain of Europe? The southeastern border? The southwestern? The northwestern? In what peninsula are the Scandinavian Mountains? What hills near the centre of the Great Plain? What sea borders the Great Plain in the gap between the Ural and Caucasus Mountains? Between the Caucasus and the Carpathian? Between the British Islands and the Scandinavian Mountains? What sea in the western part of the Great Plain? In the northern part? Name the northern arm of the Baltic Sea. The eastern arm. What two lakes are connected with the Gulf of Finland? What straits connect the Baltic and North seas? What peninsula between them? What river flows into the White Sea? What two rivers into the Caspian Sea? What two into the Black Sea? What sea north of the Black Sea? What peninsula between them? What river flows into the Sea of Azof? Into the Gulf of Riga? What two rivers flow into the Baltic Sea? What two into the North Sea?

What name is given to the western continuation of the Great Plain? At what mountains do these plains terminate on the southwest? In what island on the west? Through what two plains does the Danube flow? Which of these is not a part of the Great Plain? What other small plain between the Alps and the Apennines?

What three large islands west of Europe? What waters between Great Britain and the continent? Between Great Britain and Ireland? North of the peninsula of Spain? What three groups of islands between Great Britain and Iceland? What cape is the most northern point of Europe? The most western? The most southern? What islands southwest of Cape North? What island near the south point of Italy divides the Mediterranean into two basins? What large islands in the western basin? What two gulfs in the northern part? What river flows into the Gulf of Lion? Which are the two principal islands of the eastern basin? What small island south of Sicily? What strait between Sicily and Italy? At the entrance to the Adriatic Sea? Between the Grecian Archipelago and the Sea of Marmora? Between the Sea of Marmora and the Black Sea? What volcano in Sicily? In Italy? In Iceland?

What metals and minerals are produced in the British Islands? In the Scandinavian peninsula? In the Ural Mountains? Near the Carpathian Mountains? In southern Spain? West of the Rhine? What are the products of the southern part of the Great Plain? Of the central part? Of the northern part? Of southern Scandinavia? Near the Vistula? Of the plain of Hungary? Of Turkey? Of Greece? Of Sicily? Of western Italy? Of the plain of the Po? On the Rhine? Between the Rhine and the Bay of Biscay? Of the Spanish peninsula? Of Iceland? What industry near the shores of the North Sea and the British Channel? What fishery near Iceland? On the northern shores of Scandinavia? In the Caspian Sea and the Volga River?



PHYSICAL EUROPE.

great peninsulas—the Scandinavian in the northwest, and Western Europe in the southwest.

2. Western Europe is the larger and more important.

It is itself bordered by smaller peninsulas and islands, and broken by inland seas. Jutland and Brittany are on the north; opposite these are Turkey, Greece,

and Italy; the Spanish or Iberian Peninsula forms the southwestern extremity. The peninsular character of Europe opens a very large part of the continent to the waters of the ocean, and gives unequalled facilities for maritime commerce.

3. **Islands.**—In the Mediterranean Sea are the large islands Candia, Sicily, Sardinia, and Corsica; in the Atlantic Ocean are Great Britain, Ireland, and Iceland.

LXXXI.

DESCRIPTION.

1. **Outline.**—The Continent of Europe is a very large peninsula, and is made up of a group of peninsulas. It projects from Asia, and lies between the Mediterranean Sea and the Arctic Ocean. Its western half is divided into two

4. **Surface.**—Eastern Europe is a plain, and includes the greater part of Low Europe.

This plain extends from the Arctic Ocean to the Black and Caspian seas, where it unites with the Great Northern Plain of Asia. It is also continued into Great Britain and to the Bay of Biscay in the west, and to the Balkan Mountains in the south.

5. Four important mountain systems partly enclose this great plain—the Scandinavian, the Ural, the Caucasus, and the Carpathian. Four inland seas—viz., the White, the Caspian, the Black, and the North—break into the borders of the plain between the ends of these mountains. Besides these is the Baltic, which is entirely within the plain. These five seas receive large and sluggish rivers, the most important of which diverge from a small central district which contains the Valdai Hills.

Among these rivers are the Dwina, the Ural, the Volga, the Don, the Dnieper, the Elbe, the Vistula, and the Duna.

The northwestern part of the plain contains many lakes; among these are Ladoga and Onega, the largest lakes in Europe.

6. These rivers and lakes, and the canals by which they are connected, are the commercial routes of Eastern Europe. The Volga is the chief line of the domestic and the Asiatic trade of the seventy millions of people that inhabit the eastern plain.

7. Western Europe includes High Europe, which is a network of mountain chains with enclosed valleys and plains. The largest plateau is in Spain.



ALPINE VALLEY AND GLACIER.

8. The Alps, the loftiest mountains in Europe, the Balkan, and the Pyrenees are the principal systems.

Many of the summits of the Alps are covered with perpetual snow, and the valleys between are filled with glaciers.

9. Four navigable rivers—the Po, the Rhone, the Rhine, and the Danube—flow from the heart of High Europe,

and pass through the plains to four seas. The Po is the chief interior water-way of Italy, and the Rhone of France. The Rhine and the Danube are the chief commercial rivers of Western Europe, the latter being the more important.

10. **Climate.**—Western Europe, especially near the Atlantic Ocean, has a milder climate than other parts of the world in the same latitude.

“Ever-green Ireland” is in the same latitude as cold and barren Labrador; St. Petersburg and Stockholm are on the parallel of Cape Farewell; and the never-frozen port of Hammerfest is as far north as the ice-covered regions of the Arctic Archipelago.

The principal cause of this remarkable climate is the warm south-west or return trade-winds, which bring with them a part of the heat they have acquired in the Torrid Zone. The warm waters of the Gulf Stream are also supposed to reach these coasts and to assist in modifying their climate.

The winter climate of the interior parts of Western Europe also presents remarkable peculiarities. It becomes more severe towards the south; this is in consequence of the great elevation. Some cities in High Europe have much colder winters than other places far north of them near the shores of the ocean.

A similar change takes place towards the east with increasing distance from the ocean. The average number of days during which the Rhine is frozen over during the year is twenty-six; the Weser, which is east of the Rhine, is frozen for thirty days; the Elbe, still further east, for sixty-two; the Oder for seventy; and the Vistula for about eighty days.

11. The climate of the Mediterranean countries is almost tropical.

This is the effect of the general southward slope of the country, the warm winds from the Sahara, the mild waters of the Mediterranean, and the high mountain walls that shut out the cold polar winds. Figs, oranges, sugar-cane, and rice grow in the latitude of New York and Boston. The Spanish plateau has a cold winter and a hot and dry summer.

12. The Great Plain has a varied climate. The winters are intensely cold; in the south the summers are hot.

This winter climate is caused by distance from the warm western ocean, and by the prevalence of the polar winds, that sweep unchecked to the Black Sea and the Caspian.

13. **Vegetation and Animals.**—The Great Plain has three belts of vegetable and animal life.

The arctic regions are mossy, treeless swamps, inhabited by reindeer and other arctic animals.

Most of these animals seek the forest regions during the long winters. The rivers are frozen nine months in the year. There are few human inhabitants.

Another wide treeless region stretches across the southern part of the plain. Barren salt plains, called steppes, occupy its eastern portion. In the west are broad prairies, which sustain large numbers of sheep, horses, and cattle, and produce maize and great quantities of wheat.

A vast forest occupies a great part of the middle belt. In its colder regions the hardy grains—rye, oats,



and barley—are cultivated; farther south, flax, hemp, and wheat.

14. The warm countries of the Mediterranean produce the olive, the almond, the orange, besides rice and other grains.

Grains, fruits, and vines are cultivated in the lowlands of the Atlantic coasts and the valleys of High Europe.

As we ascend the mountains of High Europe the chestnut gives place to the oak, then follow pine forests and high pastures, then glaciers and perpetual snow.

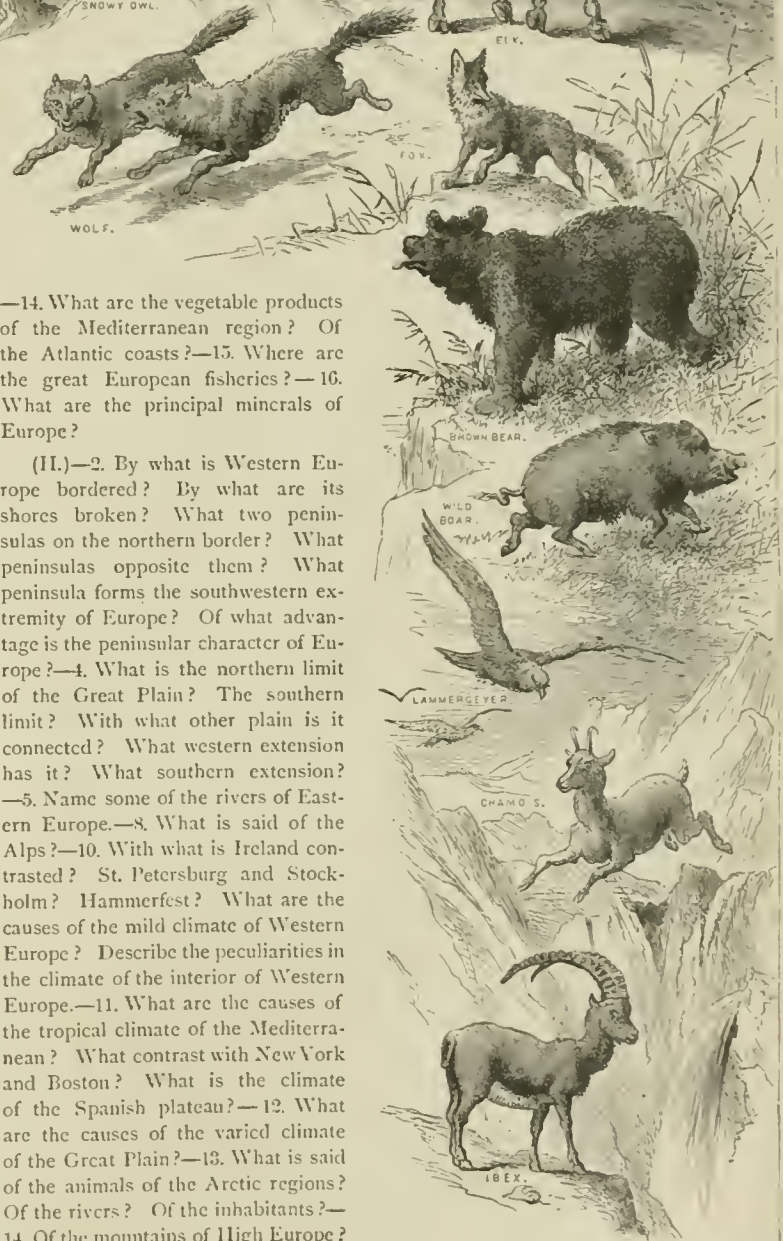
15. The northwestern coasts of Europe have extensive and valuable fisheries.

16. **Minerals.**—The mountains of Europe furnish an abundance of the most useful minerals; among these are coal, iron, lead, tin, zinc, and copper.

Questions (I.)—1. What is Europe as a physical division? Of what is it made up? From what does it project? Between what waters? How is its western half divided? What one in the northwest? What one in the southwest?—2. Which is the larger and more important of these peninsulas?—3. What large islands in the Mediterranean Sea? In the Atlantic Ocean?—4. What is the character of Eastern Europe? What does it include?—5. How many and what mountain systems partly enclose the plain? How many and what seas break its borders? Between what are they situated? What sea lies entirely in the plain? What do these seas receive from the plain? Where is the lake region? Which are the two largest lakes?—6. What use is made of these rivers and lakes? What river forms the principal commercial route of Eastern Europe?—7. What does Western Europe include? Of what does High Europe consist? Which is the only large plateau?—8. Name the chief mountain systems of High Europe. Which are the highest mountains in Europe?—9. What four rivers flow from High Europe? To what? Through what? Of what countries are they the chief water-routes? Which are the chief commercial rivers of Western Europe? Which is the more important?—10. What is the character of the climate of Western Europe?—11. What is the general climate of the Mediterranean countries?—12. What is the climate of the Great Plain?—13. How many belts of vegetable and animal life in the Great Plain? Describe the arctic belt. By what animals inhabited? Describe the southern belt. Where are the salt steppes? The prairies? What do they sustain? What are the vegetable products? Describe the middle belt. What are its products?

—14. What are the vegetable products of the Mediterranean region? Of the Atlantic coasts?—15. Where are the great European fisheries?—16. What are the principal minerals of Europe?

(II.)—2. By what is Western Europe bordered? By what are its shores broken? What two peninsulas on the northern border? What peninsulas opposite them? What peninsula forms the southwestern extremity of Europe? Of what advantage is the peninsular character of Europe?—4. What is the northern limit of the Great Plain? The southern limit? With what other plain is it connected? What western extension has it? What southern extension?—5. Name some of the rivers of Eastern Europe.—8. What is said of the Alps?—10. With what is Ireland contrasted? St. Petersburg and Stockholm? Hammerfest? What are the causes of the mild climate of Western Europe? Describe the peculiarities in the climate of the interior of Western Europe.—11. What are the causes of the tropical climate of the Mediterranean? What contrast with New York and Boston? What is the climate of the Spanish plateau?—12. What are the causes of the varied climate of the Great Plain?—13. What is said of the animals of the Arctic regions? Of the rivers? Of the inhabitants?—14. Of the mountains of High Europe?



Names.	Area in Square Miles.	Population.	Names.	Area in Square Miles.	Population.	Names.	Area in Square Miles.	Population.
Norway.....	130,170	1,913,500	Portugal.....	35,131	4,550,699	Denmark.....	15,376	1,969,039
Sweden.....	170,230	4,565,063	France.....	211,428	37,321,186	German Empire.....	210,193	45,234,061
Russia in Europe.....	1,808,485	74,493,802	Algeria and other French colonies..	400,000	19,305,608	Prussia.....	137,066	27,279,111
Russia in Asia.....	6,212,276	12,847,476	Italy.....	115,415	23,452,639	Bavaria.....	29,292	5,284,778
British Empire (about).....	8,811,000	284,000,000	Switzerland.....	16,560	2,840,102	Saxony.....	6,777	2,760,586
England and Wales.....	58,320	25,968,286	Austria.....	112,000	22,144,244	Württemberg.....	7,675	1,881,505
Scotland and islands.....	30,685	3,734,370	Roumania.....	51,978	5,376,000	Baden.....	5,851	1,507,179
Ireland and smaller islands.....	31,874	5,159,839	Servia.....	19,433	1,700,211	Hesse.....	2,866	884,218
Colonial dependencies.....	7,684,970	267,935,144	Montenegro.....	3,612	236,000	Alsace-Lorraine.....	5,580	1,566,670
Spain.....	201,237	16,625,860	Turkey in Europe.....	62,175	4,490,000	The Netherlands.....	12,209	4,060,580
Spanish Colonies.....	113,678	6,399,347	Greece.....	22,875	1,979,423	Belgium.....	11,573	5,519,844



LXXXII.

QUESTIONS ON THE MAP.

Countries.—What country forms the eastern half of Europe? What countries northwest of Russia? What countries on the Mediterranean Sea? On the Atlantic Ocean? On the Black Sea? On the Adriatic? On the Baltic? On the North Sea? What two countries have no sea-coast?

Norway and Sweden.—What mountains between Norway and Sweden? In the southern part of Norway? What port on the Arctic Ocean? What city on the western coast? On the southwestern coast? What city is the capital of Norway? What lakes in Sweden? What city is the capital of Sweden? What city on the Cattegat? South of Stockholm? North of Stockholm? Northwest of Upsal?

Russia.—What countries border Russia on the northwest? On the southwest? What sea between Russia and Sweden? What four lakes flow into the Gulf of Finland? Which is the most western province of Russia? What city

POLITICAL EUROPE.

in Poland? What city is the capital of Russia? On what river is it? (*The Neva.*) From what lake does the Neva flow? What city at its mouth? At the mouth of the Duna? Of the Duna? Of the Volga? Near the centre of Russia? What three cities on the Volga? What city south of Moscow? Between Warsaw and St. Petersburg? On the Black Sea? West of Odessa? On the Dnieper?

LXXXIII.

REVIEW EXERCISES.

Countries.—Where is it? How bounded? What is the capital?—Norway? Sweden? Russia? Greece? Turkey? Roumania? Serbia? Montenegro? Austria? Germany? France? Denmark? Iceland? The Netherlands? Belgium? Switzerland? Italy? Spain? Portugal? England? Scotland? Ireland?

Cities and Towns.—In what part of the country? How

situated?—Athens? Constantinople? Bucharest? Belgrade? Cettigne? Vienna? Berlin? Copenhagen? The Hague? Brussels? Paris? Madrid? Lisbon? London? Edinburgh? Dublin? Stockholm? Gottenburg? Norrköping? Fahlun? Christiania? Bergen? Drontheim? Hammerfest? St. Petersburg? Moscow? Warsaw? Odessa? Kishenev? Riga? Saratov? Wilna? Kasan? Kiev? Astrakhan? Archangel?

Peninsulas.—From what part of Europe does it project?—Scandinavian Peninsula? Crimea? Turkey? Greece? Italy? Iberian Peninsula? Jutland?

Mountains.—Where are they?—Ural? Caucasus? Scandinavian? Kiolen? Dovrefield?

Seas and Gulfs.—Where is it?—White? Caspian? Baltic? Black? Finland? Riga? Bothnia? Azof?

Rivers.—Where does it rise? In what direction does it flow? Through what countries? Into what body of water?—Dwina? Ural? Volga? Don? Dnieper?

Lakes.—Where situated? What outlet?—Onega? Ladoga? Peipus? Ilmen? Wener? Wetter?



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DESCRIPTION.

LXXXIV.

GOVERNMENTS AND POPULATION.

1. **Governments.**—Europe contains four empires, Russia, Turkey, Germany, and Austria; two republics, France and Switzerland; twelve independent kingdoms, Norway, Sweden, Great Britain and Ireland, Spain, Portugal, Italy, Greece, Roumania, Servia, Denmark, Belgium, and the Netherlands; and one independent principality, Montenegro. Russia and Turkey are absolute, Germany, Austria, and the twelve kingdoms are limited monarchies.

Besides these, there are in the German Empire the kingdoms of Prussia, Saxony, Bavaria, and Würtemberg; in the Austrian Empire, Bohemia, Galicia, Hungary, and Croatia and Slavonia; and in the Turkish Empire the principality of Bulgaria. Andorra in Spain and San Marino in Italy are small but old republics.

2. **Population.**—The total population of Europe is estimated at 316 millions, three fourths of it being in western Europe. It is nearly all Caucasian.

The three chief branches of the Caucasian race in Europe are the Celts in the west, the Teutons from the Alps to Scotland and northern Norway, and the Slaves in the Great Plain.

The people of the eastern half of Europe belong mostly to the Greek Church; those of the northwestern regions are principally Protestants; nearly all the rest, including more than half the population, are Roman Catholics. Near the Black Sea are several millions of Mohammedans.

3. **Norway and Sweden.**—Norway and Sweden occupy the Scandinavian peninsula. Norway is the smaller and more mountainous, and has less than one half as many inhabitants as Sweden. The kingdoms are separate, but the same king rules over both.

4. The maritime commerce of Norway is extensive and important. The exports are lumber and fish.

5. In Sweden railways and a system of canals from the Baltic to the Cattegat unite the internal with the maritime commerce. The exports are grain, iron, and copper.

6. Christiania, the capital of Norway, and Bergen, its largest Atlantic port, have a large trade in lumber and fish. Hammerfest, the most northern town in the world, is dependent upon the cod-fisheries. The Norwegian cod-fisheries are the greatest in the world.

Stockholm, the capital of Sweden, is situated on several small islands. Gottenburg is an important port and manufacturing city. Norrköping is a grain port.

7. **Russia.**—The Russian Empire, next to that of Great Britain, is the most extensive dominion in the world. It includes about one half of Europe and more than one third of Asia. The monarch is called the Czar, or emperor. The inhabitants are mostly Slaves.

[For remainder of Section LXXXIV., see page 90.]

LXXXV.

QUESTIONS ON THE MAP.

England and Wales.—What three countries on the island of Great Britain? What waters between Great Britain and Ireland? England and France? What island in the Irish Sea? What hills between England and Scotland? What mountains in Wales? What bay west of Wales? What two rivers flow into the North Sea? For what is the Thames remarkable? (*For the largest maritime commerce in the world.*) What river flows into the Bristol Channel? Into the Irish Sea? What city on the Thames? What port on the Humber? What city northwest of Hull? Southwest of York? West of Leeds? Near the mouth of the Mersey? South of Leeds? In the northern part of England? Near the centre? Near the Severn? What two cities east of Liverpool? On the south coast? In the southern part of Wales?

Scotland.—What islands northwest of Scotland? What groups north of Scotland? What hills in Scotland? What peak of the Grampians is the highest in Great Britain? (*Ben Nevis, 4370 feet.*) What name is given to the bays of the coast of Scotland? (*Firths.*) Name the five chief firths of Scotland. What firth, hills, and river form the boundary between Scotland and England? What river flows into the Firth of Clyde? What canal in the northern part of Scotland? What three cities on or near the east coast? On or near the Clyde?

Ireland.—What bays on the western coast of Ireland? Which is the largest river? What port in the northern part? In the northeastern?

In the eastern? What city in the southern part? What sea-port near it? What port on Galway Bay? On the Shannon?

Travels.—Through what cities would you pass in travelling by railway from Edinburgh to London by way of Newcastle? Plymouth to Hull by way of Birmingham? Newcastle to Liverpool by way of Leeds?

LXXXVI.

REVIEW EXERCISES.

Cities and Towns.—*In what part of the country? How situated?*—London? Liverpool? Manchester? Birmingham? Leeds? Sheffield? Bristol? Bradford? Newcastle? Salford? Hull? Portsmouth? York? Plymouth? Merthyr Tydvil? Swansea? EDINBURGH? Glasgow? Dundee? Aberdeen? Paisley? Greenock? DUBLIN? Belfast? Cork? Londonderry? Galway? Limerick? - :

Islands.—*Where situated?*—Man? Hebrides? Orkney? Shetland?

Mountains.—*Where are they?*—Grampian Hills? Cheviot Hills? Cambrian? Ben Nevis?

Seas, Gulfs, and Bays.—*Where is it?*—North Sea? Irish Sea? St. Georges Channel? English Channel? North Channel? Strait of Dover? Bristol Channel? Firth of Clyde? Firth of Forth? Solway Firth? Moray? Pentland? Cardigan Bay? Galway? Donegal?

Rivers.—*Where does it rise? In what direction does it flow? Into what body of water?*—Thames? Severn? Mersey? Clyde? Shannon?

MAP OF THE BRITISH ISLES.

Scale of Miles.
25 50 75 100 125

1000 Square Miles.



8. The exports, in the order of their importance, are grains, flax-seed, lumber, wool, flax, hemp, and cattle. The chief foreign trade is with Great Britain and Germany.

9. The principal cities are St. Petersburg, the capital and largest city and greatest commercial depot; Moscow, the ancient capital of Russia; and Warsaw, the chief city of Poland. The last two are manufacturing cities.

Riga and Cronstadt, on the Baltic, export grain, hemp, flax, and lumber; Odessa, on the Black Sea, is a great grain port; Astrakhan, on the Caspian, is noted for its fisheries and its caravan trade with Asia; Archangel, on the White Sea, exports oats, rye, flax, and forest products.

Questions (I.)—1. How many and what empires in Europe? How many and what republics? How many and what kingdoms? Which are limited?—2. What is the population of Europe? In what part is most of it? Of what race?—3. Where are Norway and Sweden? How does Norway compare with Sweden in size? In surface? In population? What political connection have they?—4. What is the commerce of Norway? What are its principal exports?—5. How



RUSSIAN FAIR AT NOVGOROD.

is the interior commerce of Sweden connected with the maritime? What are the exports?—6. What is said of Christiania? Bergen? Hammerfest? Of the fisheries of Norway? Of Stockholm? Gottenburg? Norrköping?—7. What is said of the extent of the Russian Empire? What does it include? What is the title of the monarch? Of what race are most of the inhabitants?—8. What are the leading exports? With what countries is most of the foreign trade?—9. For

what is St. Petersburg noted? Moscow? Warsaw? Riga and Cronstadt? Odessa? Astrakhan? Archangel?

(II.)—1. What kingdoms in the German Empire? In the Austrian? What small republic in Spain? What one in Italy? What is said of them?—2. What branches of the Caucasian race in Europe? What religions?

GREAT BRITAIN AND IRELAND.

LXXXVII.

DESCRIPTION.

1. The United Kingdom of Great Britain and Ireland includes these two great islands and many neighboring small ones; it has also extensive colonial possessions in other parts of the world. The kingdom with its dependencies is generally called the British Empire.

The most important colonies are British America, Australia, Tasmania, New Zealand, British India, and Ceylon. Among its other possessions are Gibraltar, Malta, and Cyprus, in the Mediterranean Sea, South Africa, parts of the western coast of Africa, with St. Helena, Mauritius, and other African islands, many of the West India Islands, and parts of Central and South America.

2. **Occupations.**—The chief wealth of Great Britain is in its manufactures, mines, and extensive maritime

commerce. Agriculture is carried to a high degree of perfection; in Ireland it is the leading occupation.

3. **Mines.**—The mines of Great Britain supply nearly one half of the coal, iron, and tin used in the world, one third of the lead, and great quantities of copper and salt.

4. **Manufactures.**—It surpasses every other country in the amount and variety of manufactures. The most important are of cotton, wool, and iron.

5. **Commerce.**—It has also a greater maritime commerce than any other nation.

It has at least 25,000 merchant vessels, and more than 200,000 seamen. They carry its manufactured products to every country on the globe, and bring in return food and raw materials. A large part of the food and two thirds of the raw cotton are obtained from the United States, which takes in return a greater quantity of manufactures than any other country. This commerce

is protected by the largest navy that has ever existed. Fortified naval depots for coal and provisions have been established on all the great routes of maritime trade. Among these depots are Gibraltar at the entrance, Malta in the middle, and Cyprus in the eastern part of the Mediterranean Sea; St. Helena, Cape Town, and Mauritius on the South African route, and Aden at the mouth of the Red Sea; Singapore at one end of the China Sea and Hong Kong at the other; Jamaica and other islands of the West Indies; Halifax, the Bermudas, and the Bahamas on the coasts of the United States; with many others in India and Australia, besides home depots.

the empire; if opposed by a majority of the House of Commons, he resigns, and the sovereign appoints his successor.

7. London, the capital of the kingdom and of the empire, is the most populous and wealthy city in the world; it is also first in commercial importance; it covers 122 square miles. Liverpool has a very large foreign commerce, especially with the United States; Manchester manufactures more cotton goods than any other city;



BRITISH NAVAL REVIEW

The several countries of Europe, and in many instances parts of the same country, differ widely in race, language, and religion. There are also intense commercial and political rivalries. As a result, mutual distrust and jealousy exist among the several governments, and Europe has become one great camp. In a time of professed peace between three and four millions of soldiers stand ready for war, and the military service is so arranged that this vast number of armed men can be more than doubled at the outbreak of hostilities. Besides all this, great navies, that of Great Britain being the most powerful, are ready to extend upon the sea the destruction which may at any time begin upon the land.

These enormous armaments are maintained by a grinding taxation and, in many countries, by a merciless conscription that withdraws millions of young men for years from all productive industry. In consequence of this, in every part of Europe thousands of women are obliged to work in the fields, and to engage in other forms of the hardest and rudest labor. In contrast with this state of affairs, the United States, though equal in area to all Europe, has but a small navy and a widely scattered army of about 25,000 men.

6. Government.—Great Britain is a constitutional monarchy.

The Legislature, or Parliament, has two branches—the House of Lords and the House of Commons. The members of the House of Commons are elected by the people. The executive power and the entire responsibility of the government are in the hands of a small body of men called the Ministry; they are appointed by the sovereign, through the influence of the Commons. The Prime Minister is practically the real ruler of

Leeds and Bradford are noted for woollen manufactures, Sheffield for cutlery, Birmingham for general hardware, Newcastle for coal. In Wales, Merthyr Tydvil and Swansea are the largest cities.

In Scotland, Glasgow is the largest city; it is also the leading manufacturing city and the chief seat of commerce. Edinburgh, the capital; Dundee, which manufactures sail-cloth and other coarse fabrics; and Aberdeen, a large sea-port, are important cities.

In Ireland, Dublin is the capital and largest city. Belfast manufactures more linen goods than any other city in the world. Cork and Limerick are also important cities.

Questions (I.)—1. What does the United Kingdom of Great Britain and Ireland include? What other possessions has it? What is meant by the British Empire?—2. In what does the chief wealth of Great Britain consist? What is said of agriculture?—3. Of the mines of Great Britain?—4. Of the manufactures? Name the most important.—5. What is said of the commerce?—6. Of the government?—7. What is said of London? Liverpool? Manchester? Leeds and Bradford? Sheffield? Birmingham? Newcastle? Merthyr Tydvil and Swansea? Glasgow? Edinburgh? Dundee? Aberdeen? Dublin? Belfast? Cork and Limerick?

(II.)—1. Name the most important British colonies. What other possessions has the United Kingdom?—5. How many merchant vessels has Great Britain? How many seamen? In what are they engaged? With what country is the chief trade? How is the foreign commerce protected? How is the navy made effective? Name the depots. In what do the several countries of Europe differ? What rivalries exist? What is the result? What is said of the standing armies? Of the navies? What country of Europe has the most powerful navy? By what means are these armies and navies maintained? What is the consequence? What is said of the army and navy of the United States?—6. Describe the government of Great Britain.

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LXXXVIII.

QUESTIONS ON THE MAP.

Spain.—What mountain ranges in Spain? What four rivers of Spain flow into the Atlantic Ocean? What one into the Mediterranean Sea? What two capes on the northwest coast? What one at the northeast point? What fortified promontory belonging to England is at the southern point of Spain? (*Gibraltar*.) What city is the capital? What port in the northeast? In the east? What ports in the south? What city on the Guadalquivir? East of Seville? Northeast of Granada?

Portugal.—What mountain range crosses Portugal? What three rivers? What port near the mouth of the Douro? What is the capital? On what river? What cape at the southwestern extremity?

France.—What countries east of France? What large island in the Mediterranean belongs to France? What two rivers flow into the Bay of Biscay? What one into the English Channel? The Gulf of the Lion? What mountains on the borders of France? In the interior? What capes on the coast? What cities on Seine River? Which is the capital? What city is its port? What city near Belgium? At the bend of the Rhone? Southwest of Lyons? On the Gulf of the Lion? On the Loire? What two cities on Garonne River? What port in the northwest?

Italy.—What two countries on the north of Italy? What river in the north? What four cities north of the Apennine Mountains? What city south of Bologna? What cities on the west coast of Italy? What is the capital of Italy? On what river? What two large islands belong to the Kingdom of Italy? What cities in Sicily?

Switzerland.—What countries border on Switzerland? What mountains on the western border? What lake on

the northeastern border? What river flows through that lake? What city on the Rhine at the northern border? What lake on the southwestern border? What river flows through it? What city at the outlet? What lofty peak in the Alps is the highest in Europe? (*Mount Blanc*, 15,760 feet.) What city is the capital? What city east of Basle?

Austria.—What countries bound Austria? What kingdom occupies the centre of Austria? (*Hungary*.) What mountains in the northern part of Austria? In the north-east? Near the Adriatic? Which is the principal river of Austria? Name the three chief branches of the Danube. What lake in Hungary? What city in the northwest? In the northeast? Southeast of Prague? What Hungarian city on the Danube? What Austrian sea-port on the Adriatic Sea? What city is the capital of Austria? What city southwest of Vienna?

Roumania, Servia, and Montenegro.—What two provinces constitute Roumania? What countries bound it? What mountains, rivers, and sea? What is the capital? What countries bound Servia? What rivers on the north? What is the capital? What countries bound Moitenegro? What sea? What is the capital?

Turkey.—What countries bound Turkey? What waters? What principality south of the Danube? What city in it? What province south of Bulgaria? What mountains in Turkey? What Turkish island south of Greece? What city is the capital of Turkey? What city northwest of Constantinople? What port on the Dardanelles? What other port in the southern part of Turkey?

Greece.—What peninsula in Greece? What island north-east of the mainland? What group south of Euboea? West of the mainland? What city is the capital of Greece? What town on the northern shore of the Morea? What two ports in the Ionian Islands? What one in the Cyclades?

Denmark.—Name the principal Danish islands. What peninsula partly in Denmark? What city is the capital?

WESTERN AND CENTRAL EUROPE.

the table-land, cork from its oak forests, and wine, olive-oil, silk, and fruits from the Mediterranean and the Guadalquivir. The exports of Portugal are similar to those of Spain.

2. Madrid, the capital and largest city of Spain, is noted for its palaces and its galleries of valuable paintings. Barcelona, the second in population, is the chief commercial city.

Among other cities are Seville, noted for fruit and for the largest tobacco manufactories in Europe; Valencia, famous for silks; and Malaga, for fruits and wines.

3. Lisbon, the capital of Portugal, is the largest city; it is the principal commercial and manufacturing city of the kingdom. Oporto, the second city, is famous for its port-wine.

LXXXIX.

REVIEW EXERCISES.

Cities.—In what part of the country? How situated?—MADRID? Barcelona? Seville? Valencia? Granada? Malaga? Murcia? Cadiz? Gibraltar? Lisbon? Oporto? PARIS? Lyons? Marseilles? Bordeaux? Lille? Toulouse? Nantes? St. Etienne? Havre? Rouen? ROME? Naples? Milan? Palermo? Turin? Florence? Genoa? Venice? Bologna? Messina? Leghorn? BERNE? Geneva? Zurich? Basle? VIENNA? Buda-Pesth? Prague? Trieste? Gratz? Brunn? Lemberg? BUCHAREST? BELGRADE? CETTIGNE? CONSTANTINOPLE? Adrianople? Salonica? ATHENS? Syra? Patras? Zante?

Islands.—Where situated?—Balearic Islands? Corsica? Sardinia? Sicily? Malta? Ionian Islands? Cyclades? Euboea? Candia? Cyprus? Iceland?

Capes.—From what coast does it project?—Gibraltar? St. Vincent? Finisterre? St. Matthew? La Hogue? Creux? Matapan?

Mountains.—Where are they?—Sierra Nevada? Sierra Morena? Sierra Estrella? Cantabrian? Iberian? Pyrenees? Jura? Alps? Cevennes? Auvergne? Mount Blanc? Apennines? Balkan? Carpathian? Etna (v.)? Vesuvius (v.)? Hecla (v.)?

Seas, Gulfs, and Bays.—Where is it?—Mediterranean? Marmora? Black? Adriatic? Genoa? The Lion? Biscay?

Rivers.—Where does it rise? In what direction does it flow? Through what countries? Into what body of water?—Rhine? Seine? Loire? Gironde? Garonne? Douro? Tagus? Guadiana? Guadalquivir? Ebro? Rhone? Tiber? Po? Danube? Pruth? Save? Drave? Theiss?

XC.

DESCRIPTION.

1. **Spain and Portugal.**—The commerce of Spain and Portugal is comparatively limited. The rivers are not navigable. Railways connect all the important cities.

Spain exports wool from the dry plains of



GATHERING CORK.

The chief colonial possessions of Spain are Cuba, Porto Rico, and the Philippine Islands; those of Portugal are the Azores, the Cape Verde, and the Madeira Islands, and Lower Guinea in Africa.

4. France.—The greater part of the people of France are engaged in agriculture. In the extent of its commerce and the value of its manufactures it is second only to Great Britain. Coal-mines near Belgium and in the Cevennes furnish an abundance of fuel for steam-power.

The country is covered with a network of railways. Its four great rivers, the Garonne, the Loire, the Seine, and the Rhone, are navigable for small steamers, and are connected by canals.

The leading exports are wines and liquors, silks, woollens, cottons, jewelry, and hardware.

5. Paris, the capital of France, is the largest city on the continent of Europe. It is a great centre of learning, fashion, and the fine arts. It is noted for its magnificent public buildings, its numerous and excellent literary and scientific institutions, and its varied and tasteful manufactures. It is the central point of nearly all the railways of the country. Lyons, the second city, is the chief seat of the silk manufacture. Among the other

large cities are Marseilles, the most important port; Bordeaux, the principal depot for wines and brandies; Lille, noted for its cloths and cotton and linen goods; and Havre, the port of Paris.

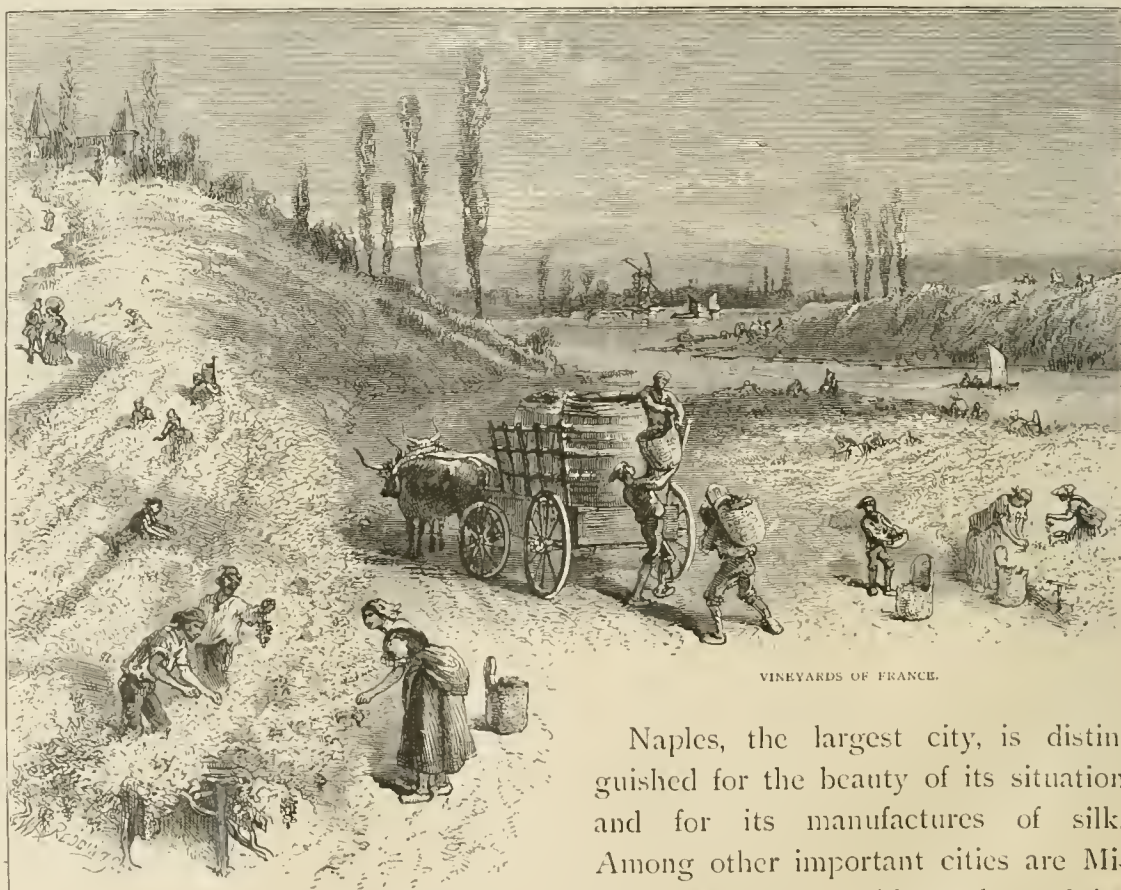
The foreign possessions of France are quite extensive. Algeria, in Africa, and the island of Corsica are provinces having representatives in the French Legislative Assembly. Besides these there are colonies in Africa, the West Indies, Guiana, the Indian Ocean, Polynesia, India, and Indo-China.

6. Italy.—Italy has a large export trade in olive-oil, fruits, sulphur, and in manufactures of silk, linen, and straw.

The Po and the Adige are the only navigable rivers. The fertile plain through which they flow produces a large amount of wheat, maize, and rice.

7. Rome, the capital of Italy, is the most celebrated city in history. It was the capital of the ancient Roman Empire. It is the residence of the Pope, who is the head of the Roman Catholic Church.

Its magnificent ruins, its collections of ancient sculptures and paintings, the splendor of its churches, and its religious importance attract great numbers of visitors from every part of the world.



VINEYARDS OF FRANCE.

Naples, the largest city, is distinguished for the beauty of its situation and for its manufactures of silk. Among other important cities are Milan, noted for its silk trade and its cathedral; Palermo, the largest city in Sicily; Turin, recently the capital of Italy; Florence, containing one of the finest collections of paintings and statuary in the world; Genoa, the birthplace of Columbus; and Venice,



SCENE IN VENICE.

remarkable for its situation on several small islands, and for its numerous canals, which take the place of streets.

8. **Switzerland.**—Switzerland, the highest part of Europe, is chiefly a land of mountains.

The ranges of the Alps, with their intermediate valleys, cover two thirds of the country. A high plain between the Alpine system and the Jura Mountains constitutes the remaining third. This plain and most of the Alpine valleys are carefully cultivated, and flocks and herds abound.

9. Switzerland is a federal republic of twenty-two small states called Cantons. About three fourths of the inhabitants are Germans, about one sixth are French, and most of the remainder Italians.

10. The manufacture of small articles, such as watches, jewelry, silk-stuffs, ribbons, and toys, is the chief occupation; these articles, and cattle, butter, and cheese, are the chief exports. The foreign trade is carried on chiefly through Germany and France.

11. Geneva, noted for its manufacture of watches and for its beautiful situation at the outlet of Lake Geneva, is the largest city. Basle, the second city, and Zurich are largely engaged in the manufacture of silks. Berne is the capital.

Questions (I).—1. What is said of the commerce of Spain and Portugal? Of the rivers? Of the railways? What are the chief exports of Spain? Of Portugal?—2. For what is Madrid noted? Barcelona? Seville? Valencia? Malaga?—3. Lisbon? Oporto?—4. What is the chief occupation of the people of France? What is said of the commerce and manufactures? Of the coal-mines? Of the railways? Of the rivers? What are the principal exports?—5. What is said of Paris? Lyons? Marseilles? Bordeaux? Lille? Havre?—6. What are the chief exports of Italy? What are its chief rivers? What are the productions of the plain of the Po?—7. What is said of Rome? Naples? Milan? Palermo? Turin? Florence? Genoa? Venice?—8. Which is the most elevated country in Europe? What is the general character of the country?—9. What is the form of government? How many states are there? What are they called? Who are the inhabitants?—10. What is the chief occupation? What are the chief exports? How is the foreign trade carried on?—11. What is said of Geneva? Basle and Zurich? Berne?

(II).—3. What is said of the foreign possessions of Spain and Portugal?—5. Of France? What other possessions?—7. What are the chief attractions of Rome?—8. What mountains cover a large part of Switzerland? Where is the high plain?

XCI.

AUSTRIA.—TURKEY.—GREECE.—DENMARK.

1. **Austrian Empire.**—The proper official title of Austria is “The Austro-Hungarian Empire.”

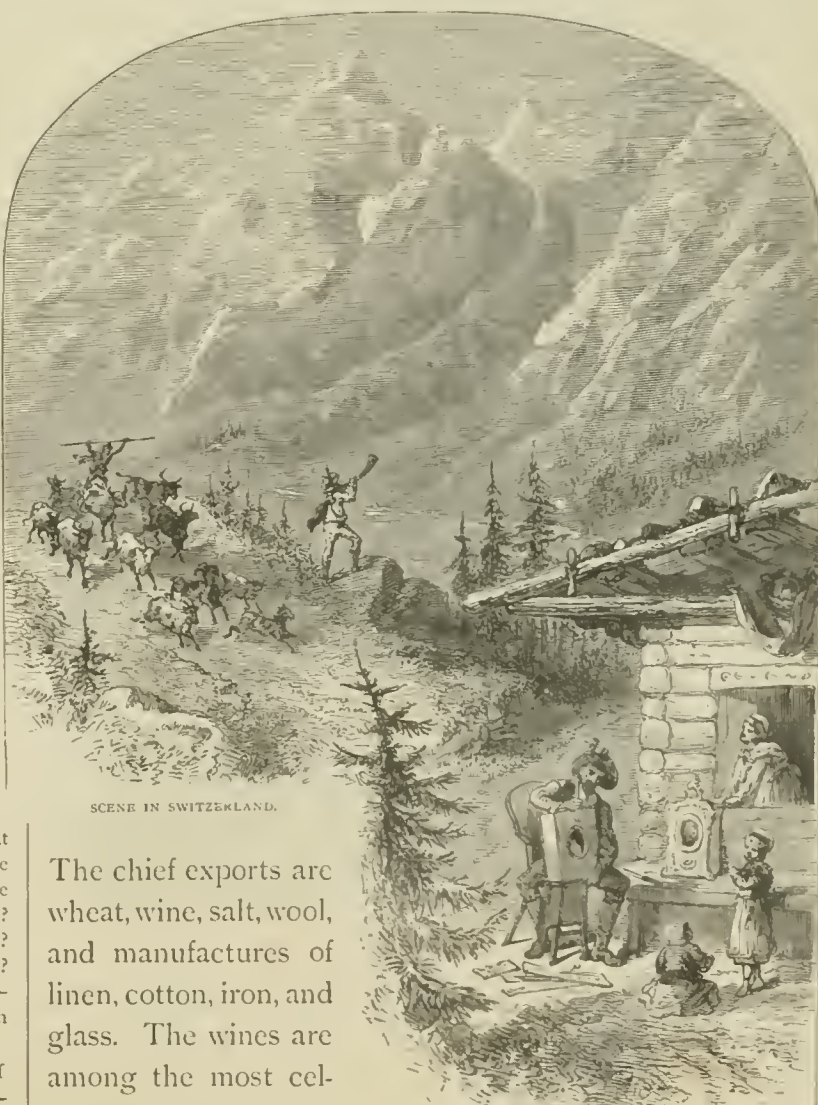
It is divided into two distinct and nearly independent groups of provinces. Each group has a government of its own; there is also a general government for the whole empire.

The Kingdom of Hungary and its dependencies constitute nearly one half of the empire. The Emperor of Austria is King of Hungary.

The provinces differ so much in nationality, race, language, and religion that the empire is with difficulty held together. One fourth of the people are Germans, and are mostly in the provinces bordering on Germany; one sixth are the Magyars of Hungary (Mongols); one half are Slaves; the remainder are Jews, Gypsies, Greeks, etc.

2. The Danube and its navigable branches form an important system of water-ways, extending entirely across the empire. There are also numerous railways.

3. The country is rich in a great variety of agricultural productions, valuable minerals, and extensive forests.



SCENE IN SWITZERLAND.

The chief exports are wheat, wine, salt, wool, and manufactures of linen, cotton, iron, and glass. The wines are among the most celebrated in Europe.

4. Vienna, the capital of the empire, is the largest city; it is the chief centre of manufactures and domestic commerce, and is connected by railways with every part of the empire. Buda-Pesth is the capital of Hungary, and the great emporium of the kingdom. Prague is the third city of the empire in population. Trieste, the principal seaport of the empire, has an extensive commerce.

5. **Roumania, Serbia, and Montenegro.**—These countries were recently parts of the Turkish Empire, but are now independent Christian states.

6. **Turkish Empire.**—The Turkish or Ottoman Empire includes European Turkey, Asiatic Turkey, a large part of Northeastern Africa, a part of Arabia, Crete, and other islands.

Though possessed of unsurpassed natural advantages for agriculture, commerce, and other industries, an oppressive government has made Turkey the lowest of European countries in the scale of civilization.

7. The inhabitants of European Turkey are of many races, languages, and religions. The Turks are the governing race, though they constitute only a small part of the population; they are Mongol Mohammedans from Asia. Bulgaria is a self-governing but tributary principality.

8. The chief exports of Turkey are tobacco, wine, olive-oil, cotton, fruits, silk, wool, carpets, and Morocco leather.



CONSTANTINOPLE.

9. Constantinople, beautifully situated on the Bosphorus, is the capital of the Turkish Empire, and the residence of the Grand Sultan, or Emperor, who is also the head of the Mohammedan religion. Adrianople and

Salonica are the chief commercial centres, and are noted for the manufacture of carpets, silks, and leather.

10. **Greece.**—Greece may be divided into Continental Greece and Insular Greece. Continental Greece includes the mainland and the peninsula of the Morea, or Peloponnesus; Insular Greece includes the Ionian Islands and those of the Grecian Archipelago.

Insular Greece is commercially the more important. It contains one third of the population, and all the larger towns except Athens and Patras.

Greek merchants and seamen conduct the greater part of the commerce of the Black Sea and the Levant, or eastern part of the Mediterranean.

The principal exports are olive-oil, honey, silk, wax, wine, currants, figs, and raisins.

The ancient Greeks were celebrated above all other peoples for their valor and patriotism, and for their genius in literature, philosophy, and the fine arts. Their poets, philosophers, orators, historians, architects, and sculptors have never been surpassed.

11. Athens, the capital and largest city, was noted in ancient times for its pre-eminence in art and literature. Syra, or Hermopolis, is the commercial centre; it is the chief station of the lines of steam vessels navigating the Eastern Mediterranean. Zante, Corfu, and Patras are important ports.

12. **Denmark.**—Denmark consists of a number of islands and the northern half of the peninsula of Jutland. The islands contain the greater part of the population.

13. Agriculture and fishing are the principal occupations. Horses, cattle, butter, cheese, pork, and grain are largely exported.

The colonial possessions are Greenland, Iceland, the Faroe Islands, and several small islands in the West Indies.

14. Copenhagen, on the island of Zealand, is the capital and largest city.

Questions (I.)—1. What is the official title of Austria? What kingdom is a part of the empire? Who is its king?—2. What system of water-ways is there? What other means of transportation?—3. In what is Austria rich? What are the principal exports? What is said of the wines?—4. For what is Vienna noted? Buda-Pesth? Prague? Trieste?—5. What is said of Roumania, Serbia, and Montenegro?—6. What does the Turkish or Ottoman Empire include?—7. How do the inhabitants differ? What is said of the Turks? What is said of Bulgaria?—8. What are the exports of Turkey?—9. For what is Constantinople noted? Adrianople and Salonica?—10. How may Greece be divided? What does Continental Greece include? Insular Greece? Which is the more important division of Greece? What is said of it? Who conduct most of the commerce of the Black Sea and the Levant? What does Levant mean? What are the exports of Greece?—11. For what is Athens noted? Syra? What important ports?—12. Of what does Denmark consist? Where is most of the population?—13. What are the chief occupations? Exports?—14. For what is Copenhagen noted?

(II.)—1. How is the empire divided? How governed? Why is Austria governed with difficulty? What part of the people are Germans? What part Mongols? What race is most numerous? What other peoples in Austria?—6. What is the rank of Turkey in the scale of civilization?—10. For what were the ancient Greeks celebrated?—13. What colonial possessions has Denmark?



XCII.

QUESTIONS ON THE MAP.

Germany.—What two seas bound Germany on the north? What kingdom? What empire east? What empire south? What republic? What three countries on the west? What German state north of the Prussian province of Brandenburg? What one nearly enclosed by Hanover? What kingdoms between Prussia and Austria? What group of small states west of Saxony? (*The Saxts.*) What kingdom west of Bavaria? What state west of Wurtemberg? What state between Baden and Prussia? (*Hesse.*) What German province west of Baden? (*Alsace-Lorraine.*)

Prussia.—What five rivers cross Prussia? What mountains in Prussian Saxony? What city in the Rhine Provinces? Which are the two chief branches of the Rhine? What city on the Main? In Westphalia? In Hanover? In Prussian Saxony? On what river is Magdeburg? What city is the capital of Prussia? On what river is Berlin? What port near the mouth of the Oder? What city in Silesia? What mount-

ains between Silesia and Bohemia? What city on the Gulf of Dantzig? What one in the northeastern part of Prussia?

Bavaria.—What mountains east of Bavaria? What Austrian province? What river crosses Bavaria? What German states form the northern and western boundaries? What city is the capital? On what river? What city nearly west of Munich? What one in the northern part of the kingdom?

Saxony.—What German states border on Saxony? What Austrian province? What mountains between them? What city is the capital? What city in the northern part?

Other States.—What city is the capital of Wurtemberg? Of Baden? What city in Alsace? What port on the Elbe near its mouth? What city on the Weser? On the Baltic northeast of Hamburg?

Netherlands.—What water on the west and north? What country south? What three provinces of Prussia on the east? What sea in the Netherlands? What great river crosses the kingdom? What city on the Zuyder Zee? What one south of Amsterdam? West of Utrecht? Southwest of Leyden? Southeast of The Hague? What city is the capital?

Belgium.—What German provinces east of Belgium? What one south? What country southwest? What two rivers in Belgium? Into what do they flow? What mountains near the French border? What cities on or near the Scheldt? What city west of Antwerp? Northwest of Ghent? On the Meuse? What city is the capital?

XCIII.

REVIEW EXERCISES.

Cities.—*In what part of the country? How situated?*—BERLIN? Breslau? Cologne? Magdeburg? Königsberg? Hanover? Frankfort-

on-Main? Dantzic? Stettin? Barmen? Posen? MUNICH? Nuremberg? Augsburg? DRESDEN? Leipsic? STUTTGART? HAMBURG? BREMEN? LUBEC? CARLSRUHE? Strasbourg? THE HAGUE? Amsterdam? Rotterdam? Utrecht? Leyden? BRUSSELS? Antwerp? Ghent? Liege? Bruges?

Mountains.—*Where are they?*—Bohmerwald? Erz? Riesen? Harz? Ardennes?

Rivers.—*Where does it rise? In what direction does it flow? Into what body of water?*—Rhine? Moselle? Main? Weser? Elbe? Oder? Vistula? Meuse? Scheldt?

Seas and Gulfs.—*Where is it?*—North Sea? Baltic Sea? Zuyder Zee? Gulf of Dantzic?

GERMAN EMPIRE AND NETHERLANDS AND BELGIUM.

XCIV.

DESCRIPTION.



EHRENBREITSTEIN.

1. The German Empire is a confederation of twenty-six states, and is the greatest military power in the world. It contains four kingdoms—Prussia, the largest and most populous, Saxony, Bavaria, and Wurtemberg.

Besides these kingdoms there are grand duchies, duchies, principalities, and the free cities Hamburg, Bremen, and Lubec.

2. **Government.**—The general government of the empire is a limited monarchy. All the separate states are also limited monarchies, excepting the three free cities, which are democratic republics. The King of Prussia is the German Emperor.

The Legislature of the empire consists of two bodies—the Federal Council, consisting of 59 members, and somewhat resembling the English House of Lords; and the Reichstag, consisting of 397 members, who are elected by universal suffrage.

The Kingdom of Prussia is one of the most powerful monarchies of Europe. It is noted for its great and efficient armies, the general intelligence of its people, and the most complete and comprehensive system of public schools in the world.

3. **Population.**—The total German population of Europe is about fifty-four millions. Of these about forty-three millions are inhabitants of the empire. Austria has about eight millions, Switzerland two millions, and Russia one million.

The Germans are remarkable for their attainments in science, literature, and art, and for their military skill.

4. **Manufactures.**—The manufactures are varied and extensive. The exports are wheat, wine, zinc, and manufactured articles. Prussia furnishes about half the zinc used in the world.

5. The principal cities of the German Empire are Berlin, the capital and largest city of Prussia; Breslau, the principal wool market on the Continent of Europe; Cologne, the chief city of the Rhine Provinces, noted for its cathedral and its trade in wines; Königsberg and Dantzic, the principal grain ports of Prussia; Stettin, an important port; Coblenz and Magdeburg, famous for their strong fortifications; Barmen, celebrated for its extensive cotton manufactures; and Frankfort, the financial



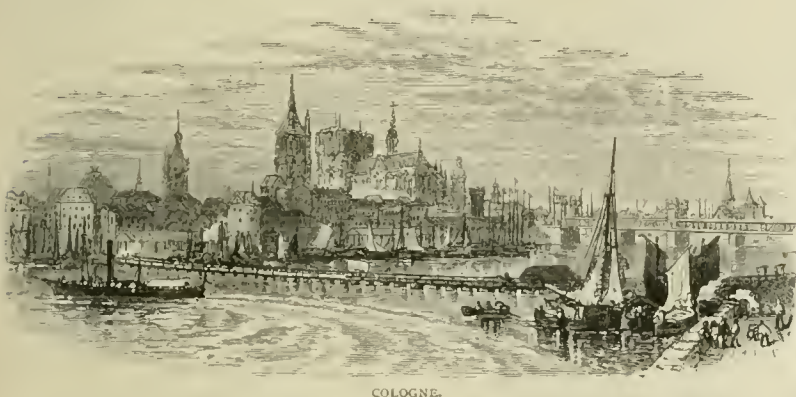
DINGEN.

centre and the emporium of inland trade.

Of the three free cities, or Hanse Towns, Hamburg is the chief commercial city of the continent of Europe, and the depot of trade with America and Great Britain; and Bremen is the principal port for the German emigration to the United States.

Dresden, the capital of Saxony, is noted for its art galleries; Leipsic, for its extensive manufacture of books and for its annual fairs.

Munich, the capital of Bavaria, is noted for its art galleries and its manufacture of telescopes and other scientific instruments.



Among other cities of Germany are Stuttgart, celebrated for its vineyards; and Strasbourg, for its cathedral and for its famous sieges.

6. Netherlands and Belgium.—These countries are densely populated, Belgium being the most crowded part of Europe.

7. Possessions.—The colonial possessions of the Netherlands are, next to those of Great Britain, the most extensive and valuable in the world.

They include the most important portions of the East Indian Archipelago, Dutch Guiana, and several islands in the West Indies.

8. Surface.—A considerable portion of Belgium, and a still larger part of the Netherlands, lie below the level of the sea.

The waters of the ocean are kept out, in part, by long hills of sand called "dunes," which have been thrown up by the waves and winds, and in part by great banks of earth called dikes, which face the sea and extend up the rivers.

The southern part of Belgium is mountainous, and is rich in timber, coal, and iron.

These supply the elements of mechanical power, and, together with the abundance of labor and the number of the ports, railways, navigable rivers, and large canals, place these countries among



the foremost in the world in all the forms of mechanical industry, in foreign and domestic commerce, and in wealth.

9. Occupations.—Agriculture is the principal occupation in the Netherlands, and manufactures and mining in Belgium.

10. Commerce.—The foreign trade is one of the largest in the world. The Netherlands export fish, dairy products, and the produce of their extensive East and West Indian colonies. Belgium exports a great amount and variety of fine manufactured goods, including those of silk, cotton, wool, linen, leather, and iron.

11. Amsterdam, the largest city of the Netherlands, is remarkable for its many street canals, its great dikes, and its extensive maritime commerce; and Rotterdam, the second city, for its distilled liquors. The Hague, Utrecht, and Leyden are important cities.

The chief cities of Belgium are Brussels, the capital and largest city, celebrated for its manufactures of lace and carpets; Antwerp, the principal port and fortress of Belgium; Ghent, second only to Manchester in England in the manufacture of cotton goods; Liege, noted for fire-arms and cutlery; and Bruges, celebrated for its manufactures of linen and lace.

Questions (I.)—1. What is the German Empire? How many and what kingdoms does it contain?—2. What is the government of the empire? Of the separate states? Of the free cities? Who is the German Emperor? What is said of the Kingdom of Prussia? For what is it noted?—3. What is the total German population of Europe? Of the German Empire? Of Austria? Of Switzerland? Of Russia? For what are the Germans remarkable?—4. What is said of the manufactures? What are the exports?—5. What is said of Berlin? Breslau? Cologne? Königsberg? Dantzic? Stettin? Coblenz and Magdeburg? Barmen? Frankfort? Hamburg? Bremen? Dresden? Leipsic? Munich? Stuttgart? Strasbourg?—6. What is said of the population of the Netherlands and Belgium?—7. Of the colonial possessions of the Netherlands?—8. Of the surface of the Netherlands and Belgium? Of the southern part of Belgium? In what is it rich?—9. What are the leading occupations in these countries?—10. What is said of the foreign trade? What are the principal exports of the Netherlands? Of Belgium?—11. For what is Amsterdam noted? Rotterdam? What other large cities? For what is Brussels noted? Antwerp? Ghent? Liege? Bruges?

(II.)—1. What other political divisions are included in the German Empire?—2. Of what does the legislature consist?—3. Which are the colonial possessions of the Netherlands?—4. How are the Netherlands and Belgium protected from the waters of the ocean? In what respects are these countries among the foremost in the world? What are the causes?



PHYSICAL MAP OF
ASIA.

Scale of Miles.
0 100 200 300 400 500

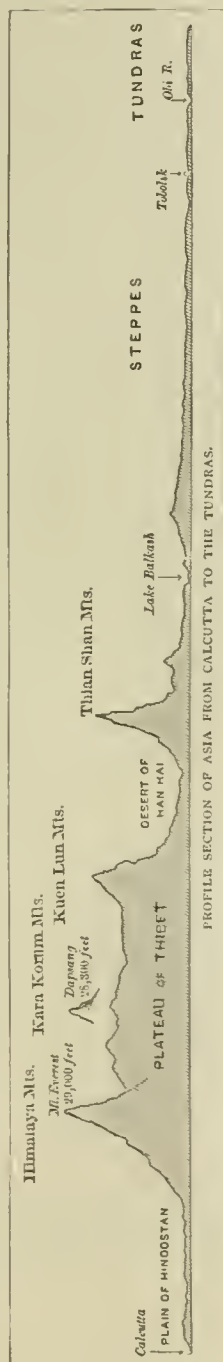


117 127 Longitude 137 East from 147 Washington. 157 167 177 183 Longitude West 193

[Copyright, 1915, by Harper & Brothers]—Revised to February, 1916.

QUESTIONS ON THE MAP.

What three oceans wash the shores of Asia? What continents on the west? What isthmus connects Asia with Africa? Name the six principal seas of the eastern coast. What islands north of Asia? What islands and peninsula partly enclose Behring Sea? Okhotsk Sea? Japan Sea? China Sea? What peninsula between Japan Sea and Yellow Sea? What islands east of the Blue Sea? What island east of the Strait of Formosa? In the northern part of the China Sea? What peninsula at the southeastern extremity of Asia? What island south of it? Name the five principal straits between the Arctic Ocean and Sumatra. What two gulfs are connected with the China Sea? What bay and sea with the Indian Ocean? What gulf north of the Arabian Sea? What strait leads to it? What sea between Asia and Africa? What strait leads to it? What gulf west of the Arabian Sea?



Of what does Arctic Asia chiefly consist? (*Lowland plains.*) What general name is given to the northern plain? With what European plain is it connected? What mountain system partly separates them? In what part of it are the tundras or mossy marshes? What belt lies south of the tundras? Southwest of the forest belt? What three great rivers drain the plain? What great river flows into the Okhotsk Sea? What large island east of the Channel of Tartary? What three large lakes or seas in the southwestern part of the Siberian Plain? Which of these is the largest lake in the world? What mountains between the Caspian and Black seas? South of the Black Sea? What peak near Taurus Mountains? Near the head of the Red Sea? What lake in the southern part of Arctic Asia?

What belt south of Arctic Asia? What plateau is the narrowest part of the plateau belt? Do most of the plateaus and mountains lie east or west of the plateau of Pamir? What plateau forms the highest part of the eastern mass? What mountain system forms its southern border? What system forms its northern border? What mountains in the western part? What two deserts are east of Pamir? What mountain systems between the plateau belt and the Siberian plains? What mountains south and east of the deserts? Name the great rivers that rise in the plateau belt or on its borders. What plateau of western Asia extends from Pamir to the Persian Gulf? What three deserts on the plateau of Iran? What mountains separate it from the Siberian Plains? What plateau between the Persian Gulf and the Red Sea? What deserts on the Arabian plateau? What plain between the plateaus of Iran and Arabia? What two rivers drain it?

What belt south of the plateau belt? Which are the chief peninsulas of Peninsular Asia? What waters embrace the peninsula of Arabia? What island south of Hindostan? What plateau in Hindo-

stan? What mountains form its eastern and western borders? In what part of Hindostan are the plains? What river drains the western part of the plains? The eastern part? What peninsula east of Hindostan? What is the general direction of the mountains, rivers, and valleys of Indo-China? Which is its chief river? In what smaller peninsula does it terminate? What isthmus does it contain? What cape at the extremity? What plain in Southeastern Asia? Between what mountains is the greater part of it? What two rivers cross the plain of China? What two peninsulas in the eastern part of Asia? What islands east of Corea? What peninsula between the Mediterranean and the Black Sea? In what part of Asia are the volcanoes? What volcano in Hondo?





POLITICAL MAP OF
ASIA.

Scale of Miles.
0 100 200 300 400 500 1000



PHYSICAL ASIA.

XCVI.

DESCRIPTION.

1. Asia is the largest of the continents. It is also first in the number and height of its mountain systems; in the extent and elevation of its plateaus; in the size of its peninsulas, archipelagoes, and salt lakes; in the number of

its inhabitants, and in their diversity of race, language, religion, and civilization.

2. It may be divided into four nearly parallel belts, viz., Arctic Asia, Desert Asia, Peninsular Asia, and Insular Asia.

3. **Arctic Asia** is included mainly in the Great Siberian Plain.

The Siberian Plain extends from the Elburz and Altai Mountains to the shores of the frozen ocean. It has a climate of unsurpassed severity. It consists of three belts of country similar to those of the Great Plain of European Russia.

In the north are mossy swamps, called tundras, inhabited by nomad tribes dependent upon the reindeer and upon the fish of the great rivers.

[For remainder of Section XCVI., see page 104.]

XCVII.

QUESTIONS ON THE MAP.

General.—What country occupies the northern part of the Continent of Asia? What empire the southeastern part? What empire east of it? What countries occupy the remainder of Asia?

Asiatic Russia.—What province forms the greater part of Asiatic Russia? What cities on the Obi? What branch has the Obi? What cities on the Irtysh? What city southwest of Tobolsk? What city near Lake Baikal? South of Irkutsk in the Chinese Empire? What province north of the Amoor River? What province east of the Caspian Sea? What rivers in it? What city on the Amoor? What city southeast of Khiva? What country between the Caspian and Black seas? What city in Georgia?

Chinese Empire.—In what part of the empire is China? What province west of China? What is the capital of Tibet? What province north? What is the capital? What other city? What province northwest of China? What province east of Mongolia? Southeast of Manchoooria? What is the capital of Corea? What two great rivers in China? What canal connects them? What city is the capital? What city in the southern part of China? What British island and port near Canton? What cities on or near the eastern coast? What cities on the Yang tse Kiang?

Empire of Japan.—Name the four principal islands of this empire. Which is the largest? What city is the capital? What port near it? What other cities in Hondo?

Indo-China.—What countries are in Indo-China? What European nation owns the northwestern shores? The southeastern shores? What city is the capital of Anam? Of Siam? Of Burmah? What port in the French possessions?

British India.—What peninsula forms the principal part of British India? What country in Indo-China is a part of British India? What island, town, and settlements near

the Strait of Malacca? How does Ceylon compare in size with Ohio? What city is the capital? What cities on or near the Ganges? Which is the capital? What port on the western coast? What city north of Bombay? What one southeast? North of Delhi? On the eastern coast?

Afghanistan, Beloochistan, and Persia.—What cities in Afghanistan? What city in Beloochistan? What desert? What deserts in Persia? What city is the capital? What city in the northwest? In the northeast? Near the centre? What sea-port has Persia?

Arabia.—What country north of the Arabian Desert? What city is its capital? What provinces of the Turkish Empire border on the Red Sea? What cities in Hedjaz? In Yemen? What is the sea-port of Mecca? What country in the southeastern part of Arabia? Its capital? What port on the Gulf of Aden? What island in the Persian Gulf?

Turkey.—What city in Europe is the capital of Turkey? What two cities in the southeast? What port on the Archipelago? What two cities northeast? What one southeast? What two cities in Palestine? What sea-port? What small lake or sea? What island west?

XCVIII.

REVIEW EXERCISES.

Countries.—Where is it? How bounded? What is the capital?

Name.	Area in Sq. Miles.	Population.	Names.	Area in Sq. Miles.	Population.
Asiatic Russia.....	6,212,276	12,847,471	Bokhara.....	92,000	2,100,000
Chinese Empire.....	3,922,317	358,000,000	Ind'p't Turkestan.....	80,000	450,000
Japan.....	147,094	35,925,313	Afghanistan.....	279,000	4,000,000
Anam.....	630,000	30,000,000	Beloochistan.....	107,000	350,000
Siam.....	81,000	6,000,000	Persia.....	640,000	7,000,000
Burmah.....	1,000,000	253,000,000	Arabia.....	970,000	4,000,000
British India.....	1,000,000	253,000,000	Turkey.....	720,000	16,000,000

Cities.—In what part of the country? How situated?—Irkoutsk? Tomsk? Omsk? Tobolsk? Barnaul? Tiumen? Maimatchin? Tiflis? Khiva? Bokhara? PEKIN? Shanghai? Han-chau? Fuh-chau? Canton? Nankin? Hong Kong? Su-chau? King-teh? Tientsin? LASSA? SEOUL, or KINGKITAO? KASHGAR? Yarkand? Tokio, or Yedo? Kioto? Ozaka? Yokohama? HUE? BANGKOK? MANDALAY? Saigon? CALCUTTA? Bombay? Madras? Benares? Singapore? Surat? COLOMBO? Hyderabad? Lucknow? Delhi? Patna? Cashmere? Herat? CAPEL? Kandahar? Kelat? TEHERAN? Tabriz? Ispahan? Meshed? Boshire? Mecca? Medina? Jiddah? Hodeida? Mocha? Aden? RIAD? MUSCAT? Smyrna? Damascus? Jerusalem? Beirut? Bagdad? Bassorah?

Islands.—Where situated?—Nova Zembla? New Siberia? Kurile Islands? Saghalin? Japan? Yezo? Hon-do? Shikoku? Kiusiu? ^{Korea} Formosa? Hainan? Ceylon? Cyprus?

Peninsulas.—From what part of Asia does it project?—Kamchatka? Corea? Indo-China? Malay? Hindostan? Arabia? Turkey?

Mountains.—Where are they?—Ural? Altai? Yablonoi? Khin Gan? Peling? Nanking? Thian Shan? Kuenlun? Kara Korum? Himalaya? Eastern Ghauts? Western Ghauts? Hindoo-koozh? Elburz? Taurus? Caucasus? Mount Sinai? Mount Ararat? Mount Fujiyama (v.)?

Seas, Gulfs, and Bays.—Where is it?—Behring? Okhotsk? Japan? Yellow? Blue? China? Arabian? Red? Gulf of Tonquin? Aden? Siam? Persian? Bay of Bengal?

Straits.—Between what lands? What waters does it connect?—Behring? Channel of Tartary? Corea? Formosa? Malacca? Ormuz? Bab el Mandeb?

Rivers.—Where does it rise? In what direction does it flow? Into what body of water?—Obi? Irish? Yenisei? Lena? Amoor? Hoang Ho? Yang tse Kiang? Cambodia? Brahmapootra? Ganges? Indus? Tigris? Euphrates? Amoo? Sihan?

In the south and southwest are immense grassy regions, called steppes, the home of barbarous nomadic Tartars, who subsist principally upon sheep and horses.

Between these belts is a vast ever-green forest, abounding with fur-bearing and other wild animals. Its cleared portions are inhabited by Europeans.

4. **Desert Asia** is a broad belt of high and dry plateaus, extending from the Red and Mediterranean seas almost to the shores of the Pacific Ocean. The plateau of Thibet is the highest in the world.

Nearly the whole of this belt excepting Arabia has great extremes of climate—hot and dry summers and severe winters. The belt of deserts is broken by the low and fertile plain of the Euphrates, once the seat of powerful empires. The mountain slopes and other fertile portions of the plateau contain populous agricultural communities, civilized but not enlightened. The remaining portions are inhabited by nomadic tribes.



SAND-SPOUTS IN THE DESERT.

5. **Peninsular Asia** is the most important division of the continent. It crosses and includes the western part of the Plateau Belt. Its southeastern peninsulas, Hindostan, Indo-China, Corea, with the projecting portion of China, contain at least one half of all the human race. The densest populations are found in the low plains.

Palestine, in the southwestern part of Turkey, is noted not only as the Holy Land of the Bible, but also for its physical peculiarities. It contains the Dead Sea, which is situated in a most remarkable depression of the earth. The surface of this sea is about 1300 feet below the level of the Mediterranean. Its waters are intensely salt, and, except near the mouth of the River Jordan, which flows into it, contain no animal life.

East of the Indus River the climate is hot and moist; west of the Indus it is hot and dry.

Judaism, Christianity, Mohammedanism, Brahminism, and Buddhism, which are the chief religions of mankind, originated in Peninsular Asia.

6. **Insular Asia** includes the richest and most important archipelagoes in the world.

NOTE.—With the exception of Ceylon and Japan, Insular Asia will be described in a separate division, under the name of Malaysia.

7. Two races, the Mongol and the Caucasian, occupy nearly the whole of Asia. The Himalaya, Hindoo-koosh, and Caucasus Mountains separate them. Nearly all to the north of these mountains are Mongols; nearly all to the south are Caucasians. Malay Peninsula and parts of Insular Asia are occupied by the Malay race.

8. **Vegetation.**—The bamboo, aloe, ebony, and sandal-wood, among trees; the

banana, date, fig, olive, tamarind, and cocoa, among fruits; cinnamon, cloves, and nutmegs, among spices; besides sugar, hemp, flax, rice, opium, tea, coffee, and cotton, indicate the great diversity of Asiatic vegetation.

9. **Animals.**—Among the chief animals of Asia are the tiger, elephant, tapir, buffalo, rhinoceros, orang-outang, arctic fox, pangolin, or ant-eater, zebra, and camel. Poisonous serpents, the crocodile, and other reptiles abound in southern Asia.

Our domesticated animals, the horse, ass, goat, sheep,

ox, hog, our common fowls, all of our grains excepting maize, and many of our most important fruits and vegetables, were derived from Asia.

Questions (I.).—1. What is said of the size of Asia? In what particulars does Asia surpass all other continents?—2. Into how many and what physical belts may it be divided?—3. What plain occupies the greater part of Arctic Asia?—4. What is Desert Asia? What is its extent? Which is the highest plateau?—5. Which is the most important division of the continent? What other belt does it partly include? What is said of the population? For what is Palestine noted? What remarkable sea does it contain? What is said of the surface of the Dead Sea? Of its waters?—6. What does Insular Asia include?—7. What two races occupy nearly the whole of Asia? By what are they separated? Where are the Mongols? The Caucasians? The Malays?—8. What is said of the vegetation?—9. Name the principal animals of Asia.

(II.)—3. Between what limits does the Siberian Plain extend? What is the character of its climate? Of what does it consist? Describe the northern belt. Southern belt. Middle belt.—4. What is the climate of Desert Asia? By what is the belt of deserts broken? By whom are the plateaus inhabited?—5. What is the climate east of the Indus River? West? What religions have originated in Peninsular Asia?—9. What animals were derived from Asia? What other things?



POLITICAL ASIA.

XCIX.

DESCRIPTION.

1. **Asiatic Russia.**—Asiatic Russia covers more than one third of Asia. It includes Siberia, Russian Turkestan, and Georgia or Trans-Caucasia, and extends from Behring Strait to the Black Sea.

2. **Siberia.**—Among the resources of Siberia are furs from the forest belt; gold, chiefly from East Siberia; copper, iron, and gold from the Ural; and fossil ivory from the islands of New Siberia.

The longest inland commercial route on the globe extends from Peking, through Maimatchin, Irkoutsk, Tomsk, and Tobolsk, to Moscow and St. Petersburg.

The population of Siberia is about 3,500,000 mostly occupying the river-valleys in the south. A large part are exiles or descendants of exiles from European Russia, whence about 12,000 criminals are banished every year. The worst are condemned to labor in the mines. Most of the others take their families with them, and receive small grants of land.

Irkoutsk is the principal city. Tobolsk, Tomsk, Omsk, Barnaul, and Tiumen are important commercial towns.

3. **Russian Turkestan.**—Russian Turkestan includes the greater part of the country between the Caspian Sea and the Altai Mountains. It contains a number

of districts called khanates, and several populous cities. Many of these khanates have been recently annexed by Russia. The native rulers are continued, but only as vassals of Russia. The inhabitants are Mohammedan Tartars.

4. **Georgia,** or Trans-Caucasia, has a population nearly as large as that of Siberia. The people are said to be the handsomest in the world. Tiflis is the chief city, and has a great caravan trade with Persia.

5. **Independent Turkestan** includes those Tartar khanates that are not yet annexed by Russia.

6. **Chinese Empire.**—The Chinese Empire includes China, the dependent provinces of Mantchooria, Mongolia, Kashgaria, and Thibet, and the tributary kingdom of Corea.

The Chinese Empire is one of five great governments which together cover more than half of the land surface of the globe. These are, in the order of their area, the British Empire, the Russian Empire, the Chinese Empire, the United States, and Brazil.

7. **Population.**—The total population of the empire is estimated at 435,000,000, and consists chiefly of Mongols. The dependent provinces contain only about 30,000,000; all the rest are in China, five sixths of them being in the eastern half of it. This is the densest population in

the world. Nearly three millions live in boats and in floating gardens and houses on rafts in the rivers and canals.

8. **Government and Religion.**—The government is an absolute monarchy. The prevailing religion is Buddhism.

9. **Occupations.**—Agriculture, which is regarded as the noblest of employments, is the chief occupation of the Chinese. The implements used are very rude and simple.



STREET IN CHINA.

10. **Productions.**—Rice, tea, cotton, and silk are the great staples, and furnish the principal food, drink, and clothing. All the manufactures are the products of hand labor; those of silk and porcelain are the most valuable.

11. **Commerce.**—The domestic commerce of the Chinese Empire is unparalleled in extent. Its chief water-routes are the large canals and the navigable rivers and lakes. The mountains, steppes, and deserts of the interior plateaus are crossed by caravans of camels. A great caravan trade with Russia has its depot at Maimatchin, where tea is exchanged for furs, woollens, etc. The extensive maritime commerce is in the hands of foreigners.

The principal exports are tea and raw silk. The chief imports are cotton and woollen goods, opium, and wheat.

12. **Education.**—Education is compulsory. All adult males are able to read and write, and possess a knowledge of the elements of arithmetic.

Government officers of all grades below the emperor are selected by means of a public competitive examination to test their scholarship, and may be of the most humble parentage.

The Chinese are not surpassed by any people in the world in frugality and industry and in skill in their various occupations. They have possessed the mariner's compass and practised the arts of printing, silk-making, and paper-making from time immemorial. They were also very early acquainted with the manufacture of gunpowder, but did not make use of it in war.

The people are unwarlike. When not on duty the soldiers are employed in useful trades.

Among the more important public works are excellent roads, great canals, and the famous wall, more than 1200 miles long, completed B.C. 211, to keep the Mongol Tartars out of China.

13. No other country contains so many great and walled cities as China. Their population is variously reported, and changes rapidly.

Pekin is the capital and largest city. Shanghai, the chief port, is the principal depot of the great basin of the Yang tse Kiang, and has three fourths of the foreign commerce. Han-chau, a triple city, is the great depot of internal trade. Canton is the second city in foreign trade. Fuh-chau is the chief place of shipment of black tea. Nankin, once the populous capital of China, is now nearly all in ruins. Among other places are Seoul, or King-kitao, the capital of Corea; Maimatchin, the depot of the Russian trade; and Lassa, the capital of Thibet and the residence of the Grand Lama, or Buddhist chief-priest.

14. **Japan.**—The Empire of Japan consists of four large mountainous islands and many smaller ones.

15. **Productions.**—The agricultural and manufactured products and the exports are similar to those of China.

16. **Government.**—The government of Japan is a constitutional monarchy. The emperor is called the Mikado. After centuries of nearly complete exclusion, foreigners have recently been admitted to Japan. Since that time the Japanese have been quick to appreciate and adopt the arms, uniform, naval and military systems, light-houses, steam power, and telegraph of Europeans. They surpass the Chinese in intelligence, and equal them in mechanical skill. They are of the same Mongol race, and have similar religious beliefs, but differ greatly in language and political institutions. In many respects their civilization compares favorably with that of any other nation. The elementary education of males is universal, systematic, and compulsory.

17. Tokio, known as Yedo until 1868, is the national capital and largest city, and has an extensive commerce; its port, Yokohama, is the chief depot of the foreign trade; Kioto was formerly the capital and the residence of the emperor; Ozaka, the second city, is the principal port of the domestic commerce of the empire.

Questions (I.).—1. How much of Asia is occupied by the Russian Empire? What countries does it include? What is its extent?—2. Name the principal resources of Siberia, and whence derived. What long route of inland commerce, and through what cities? What is said of Irkutsk? What other towns?—3. What does Russian Turkestan include? How is it governed? Who are the inhabitants?—4. What is said of the population of Georgia? What is said of the Georgians? Of Tiflis?—5. What is said of Independent Turkestan?—6. What does the Chinese Empire include? Name in their order the five most extensive governments of the globe. What part of the land surface do they cover?—7. What is the total population of the empire? Of what race are they? How is the population distributed? What is said of the water population?—8. What form of government in China? What is the prevailing religion?—9. What is the principal occupation? How is it regarded? What is the character of the implements used?—10. Name the staple productions. What do they furnish? What is said of manufactures? Which are the most valuable?—11. What is said of the domestic commerce of China? What are its water-routes? Where are caravans employed? How is the trade with Russia conducted? Which are the principal exports? The principal imports?—12. What is said of education?—13. What is said of the cities of China? Of their population? What is said of Pekin? Shanghai? Han-chau? Canton? Fuh-chau? Nankin? Seoul or Kingkitao? Maimatchin? Lassa?—14. Of what does the Empire of Japan consist?—15. What is said of the agricultural and manufactured products and the exports?—16. Of the government? What is the emperor called? What has been the policy of the Japanese towards foreigners? What European inventions have the Japanese adopted? How do the Japanese compare with the Chinese? What is said of their civilization? Of education?—17. For what is Tokio or Yedo noted? Yokohama? Kioto? Ozaka?

(II.)—2. What is the population of Siberia? Where located? What is said of the exiles?—12. How are the government officers of China selected? For what are the Chinese distinguished? What arts have they long practised? What is said of the character of the Chinese? Of their public works?

C.

BRITISH INDIA AND INDO-CHINA.

1. British India.—British India includes nearly all Hindostan and most of the western coasts of Indo-China. It is the richest and most important dependency ever possessed by any nation.

2. Surface.—Hindostan consists of the Himalayan highlands in the north, the plateau of the Deccan in the south, and the great plain between them.



GATHERING TEA.

This plain contains the Valley of the Indus, the lower half of which is mostly desert, and the Valley of the Ganges, which is one of the most fertile and populous countries in the world, being surpassed only by portions of China.

3. Inhabitants.—The inhabitants number about 253 millions, being about four fifths as many as in all Europe. Six sevenths are Hindoos, whose religion is Brahminism; most of the remainder are either Buddhists or Mohammedans. There are also Parsees, or Persian fire-worshippers, Jews, and European Christians, and many whose religious belief is the grossest heathenism. The greater part of the Europeans are in the British army of India.

The Hindoos have possessed a wonderfully rich poetical, philosophical, and religious literature from times long before the Christian era. British India is rapidly adopting the civilization of Europe.

4. Government.—The country is under the control of a Governor-General and a Supreme Council appointed by the British Government. The Queen of England is "Empress of India." The capital is Calcutta. The rich and populous island of Ceylon is a separate colony.

5. Productions.—The principal vegetable productions are rice and other grains, cotton, sugar, opium, indigo, jute, and spices. Rice is the principal article of food, and cotton the chief material for clothing.

6. Commerce.—The maritime commerce is chiefly with Great Britain and China, and is controlled by native and British merchants. The routes of an extensive caravan trade radiate from Hindostan to all the countries of Central and Western Asia. Among the most important articles of export are cotton, opium, sugar, jute, indigo,

fine fabrics of silk and cotton, and costly Cashmere shawls. Ceylon is noted for its export of coffee and cinnamon.

7. Railways, etc.—The principal cities are connected by railways, by means of which the cotton and other produce of the interior are brought to the ports. Nearly all the railways and telegraph lines of Asia are in British India. Steamboats ply on the principal rivers.

8. Calcutta, the capital and largest city of British India, is the chief commercial centre of Hindostan; Bombay is the chief cotton port; and Madras is the centre of an extensive trade. Benares, the chief seat of Hindoo learning and religion, is the most sacred city of Hindostan. Among other important cities are Lucknow, Patna, Hyderabad, Delhi, Surat, and Cashmere.

9. Indo-China.—Indo-China includes Burmah, Siam, Anam, and many smaller independent states. All have despotic governments. The southeastern coast is called Cochin China. The interior of these countries is but little known to Europeans.

10. Inhabitants.—The inhabitants resemble the Chinese in race, religion, and civilization.

11. Commerce.—The foreign commerce is chiefly with China and by inland routes. The productions and exports are similar to those of Hindostan.

12. Bangkok, a large part of which consists of houses built on floating rafts of bamboo, is the capital of Siam and the largest city in the peninsula; Mandalay is the capital of Burmah, and Hue the capital of Anam.

13. The British possess parts of the west coast of the Malay peninsula, and the island and fortified city of Singapore, one of the most important ports of the East. It controls the Strait of Malacca, the chief gateway of Asiatic maritime commerce, and is the great depot for tin, which is obtained from neighboring mountains and islands. The French possess an important province in Indo-China; Saigon, a fortified port on the southern coast, is its capital.

Questions (I.)—1. What does British India include? What is said of it?—2. Describe the surface of Hindostan.—3. How many inhabitants in British India? What portion are Hindoos? What is their religion? What other religions are found in India? With what are most of the European residents connected?—4. By whom is the country governed? What city is the capital? What island is a province of British India?—5. What are the principal vegetable productions? The chief article of food? Of clothing?—6. With what countries is the maritime commerce? What is said of the caravan trade? What are the most important exports?—7. What is said of the means of communication?—8. For what is Calcutta noted? Bombay? Madras? Benares? Name other important cities.—9. What countries are included in Indo-China? What is the character of their governments? What name is given to the southeast coast? What is known of the interior?—10. What is said of the inhabitants?—11. Of the commerce? Of the productions and exports?—12. For what is Bangkok noted? Mandalay? Hue?—13. What and where are the British possessions? Their port? Why important? Of what is it a depot? What other European nation has possessions in Indo-China? What and where is the capital?

(II.)—1. What two valleys does it contain? What is the character of each?—3. What is said of Hindoo literature? Of the civilization of British India?

CI.

PERSIA, AFGHANISTAN, BELOOCHISTAN, ARABIA, AND TURKEY.

1. Persia, Afghanistan, and Beloochistan.—Persia, Afghanistan, and Beloochistan occupy the desert plateau of Iran, between the valleys of the Tigris and the Indus. Persia is the largest and most important. They are traversed by many high mountain ranges.

2. The high plateaus of the central region contain broad steppes and deserts, with many rich oases which determine the caravan routes.

3. Beloochistan is mostly a barren wilderness. Afghanistan is of commercial and military importance because it contains the chief routes from India to Western Asia.

4. Governments.—The governments are extremely oppressive. The supreme ruler of Persia is called the Shah. Afghanistan is noted for its frequent and cruel civil wars; the monarch is called the Khan. Beloochistan consists of a number of small states, under the headship of the Khan of Kelat.

5. Inhabitants.—The inhabitants are of various Mohammedan races, and live mostly in towns and villages. The deserts and oases have a large nomadic population, mostly robber hordes of Arabs, Turks, and Afghans. The Persians, on account of their polite manners and comparatively high civilization, are sometimes called the French of Asia.

6. Exports.—Persia exports silks, woollens, shawls, carpets, and cotton, silk, and wool.

7. The chief cities of Persia are Teheran, the capital; Ispahan, once one of the most splendid cities of the East, but now fallen into decay; Tabriz, noted for its great trade with Russia; Bushire, the principal port on the Persian Gulf; and Meshed, the Holy City of Persia.

Kelat, the capital and chief town of Beloochistan, and Cabul, the capital and largest city of Afghanistan, Herat, and Kandahar are important as military stations and as depots of the great caravan routes.

8. Arabia.—Arabia is about one third as large as the United States. It consists of three regions: a great plateau, having many large and fertile valleys, occupies the interior; surrounding this is a broad belt of deserts, covering more than one third of the peninsula; along the coasts is a low and narrow sandy plain containing a few fertile districts.

9. Government.—The interior contains several independent states governed by despots called sultans.

About five sixths of the population live in towns and villages; the remainder are tribes of plundering nomads, called Bedouins. The heads of the tribes are called sheiks. They are nearly all subject to the sultans.

The principal state is the Nedjed, which occupies the greater part of the interior plateau. Riad is the capital and the residence of the Sultan. Muscat, the capital of Oman, is the largest city of eastern Arabia.

10. Yemen and Hedjaz, on the western coast, are provinces of the Turkish Empire. Yemen is very fertile. Hedjaz contains the holy cities of Mecca and Medina.

Mecca is the birthplace of Mohammed, and contains the Kaaba, the most sacred of mosques. It is annually crowded with caravans of pilgrims from all parts of the Mohammedan world. An immense amount of trade is at the same time carried on. The camel, "the ship of the desert," is the principal beast of burden. The horses of Arabia are famous for speed and beauty.

11. Besides the cities already mentioned are Sana; Jiddah, the port of Mecca; Mocha, noted for its coffee; and Aden, belonging to Great Britain.

The most valuable pearl fishery in the world is at Bahrein Island, near the Strait of Ormus.

12. **Asiatic Turkey.**—Asiatic Turkey is the most important part of the Ottoman Empire.

13. **Government.**—It is divided into provinces, which are governed by pachas appointed by the Sultan.

Turkey was for centuries one of the richest regions of the world. The arbitrary and oppressive nature of the government has long since reduced it to utter poverty and degradation. Provinces once flourishing and densely populated are now dry and solitary wastes.

14. **Commerce.**—Maritime commerce is in a low condition. The caravan trade connects the chief cities with Arabia and Persia. There are few roads. The Lebanon Mountains in the southwestern part produce large quantities of raw silk.

15. The principal cities are Smyrna, the chief commercial city of Western Asia, noted for its exportation of figs and other dried fruits; Bagdad, the centre of the caravan trade with Arabia and Persia; Bassorah,

the chief port, near the Persian Gulf; Damascus, a depot of the caravan trade with Persia, and said to be the oldest city in the world; Beirut, the sea-port of Damascus; and Jerusalem, the sacred city of Christians, Jews, and Mohammedans. Aleppo, Brusa, and Trebizond also are important cities.

Japan, China, and India have possessed extensive commerce, books, and definite systems of religion and government from the earliest ages. For many centuries the social condition of these countries remained unchanged. Important and rapid changes are now taking place in consequence of the adoption and introduction of the railway, the telegraph, and other practical applications of the sciences and arts of Europe.

Questions (1).—1. Where are Persia, Afghanistan, and Beloochistan? Which is the most important? By what are they traversed?—2. What is the character of the central region?—3. Of Beloochistan? Why is Afghanistan important?—4. What kind of government have these countries? What is the title of the Persian monarch? For what is Afghanistan noted? What is the monarch called? Of what does Beloochistan



CEDARS OF LEBANON.

consist? Under what leadership?—5. What is said of the inhabitants? Of the population of the deserts and oases? Of the Persians?—6. What are the exports of Persia?—7. For what is Teheran noted? Isfahan? Tabriz? Bushire? Meshed? Kelat? What other caravan depots?—8. How large is Arabia? Of what does it consist? What is the interior? What surrounds it? What surrounds the whole?—9. What does the interior contain? By whom governed? Which is the principal state? Where is it? What city is the capital? What is said of Muscat?—10. Of Yemen and Hedjaz?—11. Name some other cities. For what is Bahrein Island noted?—12. What is said of Asiatic Turkey?—13. How is it divided? By whom are the provinces governed?—14. What is said of the maritime commerce? Of the caravan trade? Of the roads? Where is silk produced?—15. What is said of Smyrna? Of Bagdad? Of Bassorah? Of Damascus? Of Beirut? Of Jerusalem? What other important cities.

(11).—9. What part of the population is not nomadic? Who are the Bedouins? To whom are the Bedouins subject?—10. For what is Mecca noted? What is said of the pilgrims? Of trade? Of the camel? Of Arabian horses?—13. What was once the condition of Turkey? What is its present condition?—15. What is said of the social condition of Japan, China, and India? What changes are now going on?

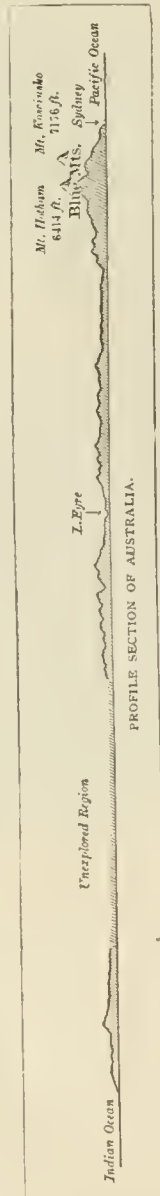
CII.

QUESTIONS ON THE MAP.

Malaysia.—What archipelago southeast of Asia? What seas in Malaysia? What straits? Which is the largest island? What cities in Borneo? What group of islands northeast of Borneo? Name the two largest. What city on Luzon? On Mindanao? What island west of Borneo? What city and island in the Strait of Malacca belong to Great Britain? What three ports in Sumatra? What island between Sumatra and Borneo? South of Borneo? What three ports has it? To what group do Sumatra and Java belong? What island east of Borneo? What group east of Celebes?

What colony south of Victoria? What is the capital? What other city? Which is larger, Tasmania or Ohio? What colony east of Tasmania? Name the chief islands of New Zealand. What strait separates them? Which has many volcanoes? What range of mountains in South Island? What city is the capital of the colony? What other city on North Island? What city on South Island?

Polynesia.—What name is given to the small islands scattered over the Pacific? (*Polynesia*.) What islands northeast of New Caledonia? (For this and the following questions, see small maps and Map of Western Hemisphere.) To what country do they belong? What group south of the Tropic of Cancer? Name the three largest. What city is the capital? What volcano in Hawaii? What group east of the Friendly Islands? Which is the largest?



Melanesia.—What group of islands east of Malaysia? Which is the largest island of Melanesia? What one belongs to France?

Australia.—In which direction is the Australian continent longest? (See Physical Map.) What waters surround it? What gulf on the north? What two on the south? Name the chief mountain ranges. Where situated? Name the chief river and its tributaries. Name the chief lakes. Where are the Great Barrier Reefs?

Name the colonial divisions of the continent. (See Political Map.) Which colony is in the southeastern part? What river forms part of its boundary? What city is the capital? What city north of Melbourne? West? Southwest? What colony north of Victoria? Name its chief rivers. Its chief mountain ranges. Its capital. What city west of Sydney? Northwest of Paramatta? What other sea-port? What city near Newcastle? What colony north of New South Wales? What is the capital? What colony west of New South Wales? What lakes in it? What city is the capital? What colony in the western part of the continent? What city is the capital?



CIII.

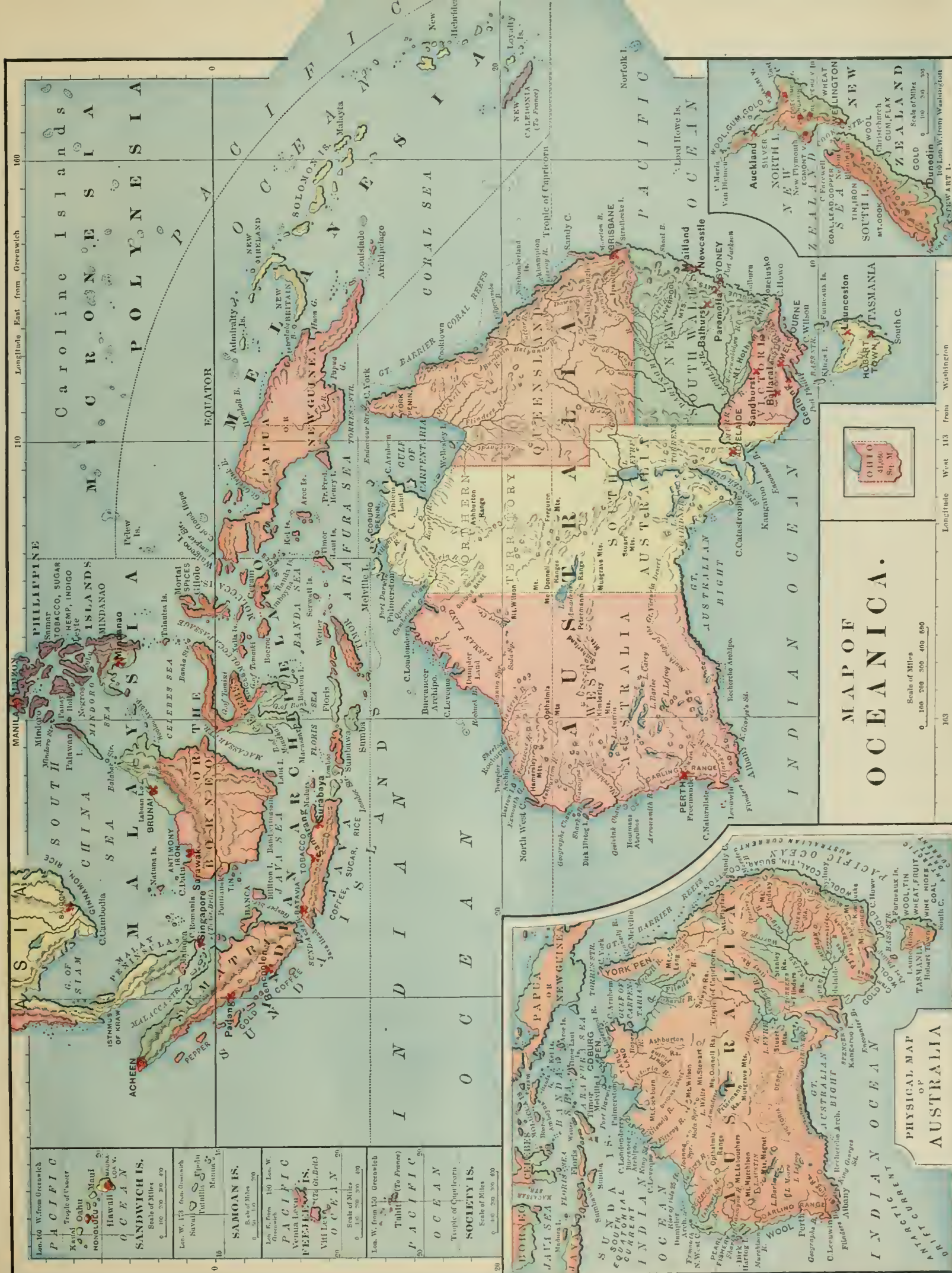
REVIEW EXERCISES.

Islands.—Where situated?—MALAYSIA? Sunda Islands? Sumatra? Banca? Java? Borneo? Celebes? Molucca Islands? Philippine Islands? Luzon? Mindanao? MELANESIA? Papua? Solomon Islands? New Caledonia? AUSTRALIA? Tasmania? New Zealand Islands? Stewart? South? North? POLYNESIA? Feejee Islands? Society Islands? Tahiti? Sandwich Islands? Oahu? Hawaii?

Straits.—Between what lands? What waters does it connect?—Malacca? Sunda? Macassar? Molucca? Torres? Bass? Cook?

Cities.—In what colony or island? How situated?—MANILA? BRUNAI? Saravak? Mindanao? ACEHEN? Padang? Bencoolen? Singapore? BATAVIA? Surabaya? Samarang? MELBOURNE? Bal-larat? Sandhurst? Geelong? SYDNEY? Newcastle? Paramatta? Bathurst? Maitland? BRISBANE? ADELAIDE? PERTH? HOBART TOWN? WELLINGTON? Auckland? Dunedin? HONOLULU?





MAP OF OCEANICA.

Scale of Miles
0 100 200 300 400 500

[Copyright, 1874, by Harper & Brothers.] Revised to November, 1883.

PHYSICAL MAP OF AUSTRALIA

Scale of Miles
0 100 200 300 400 500

ANTARCTIC CURRENT

INDIAN OCEAN

South C.



OCEANICA.

CIV.

DESCRIPTION.

1. **Oceanica.**—Oceanica includes all the islands of the Pacific Ocean south of the Tropic of Cancer. It consists of the great archipelagoes of Malaysia and Melanesia, the continent of Australia, together with the islands of Tasmania and New Zealand, and Polynesia.

2. **Malaysia.**—The population of Malaysia is about 30,000,000, or nearly five times as much as that of all the rest of Oceanica. The people are mostly Mohammedan Malays, and are brave, intelligent, and in part civilized. The climate is similar to that of the West Indies.

3. The Philippine Islands, the most northern group of Malaysia, belong to Spain. The capital, Manila, is a great emporium; its exports include sugar, tobacco, cigars, indigo, Manila-hemp, cordage, and hats.

Java, Celebes, the Moluccas, many smaller islands, and parts of Sumatra and of Borneo belong to the Netherlands, and are called the Dutch East Indies. They are rich in spices and tin, and, next to British India, are the most magnificent of colonial possessions. Java, the most important of these islands, contains about eighteen millions of inhabitants. Batavia, the capital and the chief commercial depot, exports the tin of Borneo and Banca, the

pepper of Sumatra, the cloves, nutmegs, and other spices of the Moluccas and Celebes, and other tropical products.

4. **Melanesia.**—Melanesia, or "Land of the Blacks," is a long group of islands extending from New Guinea to New Caledonia. It is inhabited by a cannibal, negro-like race called Papuans.

5. **Australia.**—The continent of Australia and the islands of Tasmania and New Zealand are British possessions. The area of Australia is nearly equal to that of the United States, excluding Alaska. Its colonial divisions are Victoria, New South Wales, Queensland, West Australia, and South Australia, with its dependency, Northern Territory. Victoria, the most important, equals in area all the New England States, together with New Jersey, Delaware, and Maryland.

The greater part of the interior of Australia is yet unexplored. It probably consists mainly of low desert plains. The continent is nearly encircled by a rim of low mountains, the highest being on the eastern side. Between these and the almost unbroken coasts is a narrow belt of lowlands. There are but few rivers.

6. **Population.**—The European population is about two millions, the greater part being in Victoria and New South Wales. The original savage inhabitants are nearly exterminated.

7. **Government.**—The colonies are politically inde-

pendent of one another, and are governed by representatives chosen by universal suffrage, and by executive officers appointed by the Crown.

8. **Climate.**—The northern part of Australia has a tropical climate; the southern part is subject to sudden and great changes of temperature, and to an irregular succession of floods and droughts.

9. **Vegetation.**—In the wooded regions the trees, which are chiefly evergreens, stand wide apart, have few leaves, and cast little shade. Some exceed in height the great trees of California.

10. **Animals.**—Many of the native quadrupeds are pouched animals, some being as tall as a man, others no larger than a rat. Among the most singular are the kangaroo, the wombat, and the duck-bill; the last has webbed feet and a broad bill like a duck. Among the birds are the apteryx, which has no wings, and the lyre-bird, the tail-feathers of which resemble a lyre.

11. **Productions.**—Australia produces wheat, indigo, cotton, sugar, coffee, tin, and copper. The scattered but rich grasses support many millions of sheep and cattle. It is the chief wool-growing country in the world, and is second only to the United States in the production of gold.

12. **Commerce.**—Nearly all the maritime commerce is with Great Britain, and is carried on by steamers. Railways and telegraph lines connect the two largest cities, Melbourne, the capital of Victoria, and Sydney, the capital of New South Wales, with other towns. Other important towns are Ballarat, Geelong, Paramatta, Adelaide, Brisbane, and Perth. The chief exports are wool, cotton, wheat, gold, and copper.

The Australian Colonies and New Zealand, though distant nearly half of the circumference of the globe from Great Britain, are in telegraphic communication with that country. A land line from the principal cities crosses the middle of the continent to the northwestern coast, and is continued by an ocean cable to British India. Other lines and cables connect this latter country with London. A line of ocean steamers, plying between Australia, the Feejee and Sandwich Islands, and San Francisco, connects the commercial system of the United States with that of Australia.

13. **Tasmania and New Zealand** are very mountainous. The productions of Tasmania are similar to those of Australia. The capital is Hobart Town.

New Zealand is a little larger than Great Britain. Gold, wheat, and New Zealand flax are the chief exports. Wellington is the capital.

14. **Polynesia.**—Polynesia consists of many thousands of small oceanic islands situated in the Pacific Ocean and within the Torrid Zone.

These islands are mostly in parallel chains, and appear to be the tops of mountain ranges whose bases are deep in the ocean. If the mountain is entirely below the sea, the island usually consists of an irregular oval ring or reef of coral, enclosing a lagoon, having one or more openings to the sea, and crowned with cocoanut-palms and bread-fruit and other trees. Such an island is called an atoll; many hundreds of atolls sometimes constitute a single group.



CORAL ATOLL.

15. The Polynesians are mostly Malays and Pagan savages. The Sandwich Islands, Tahiti, the Feejee Islands, and the Samoan Islands have become Christian states.

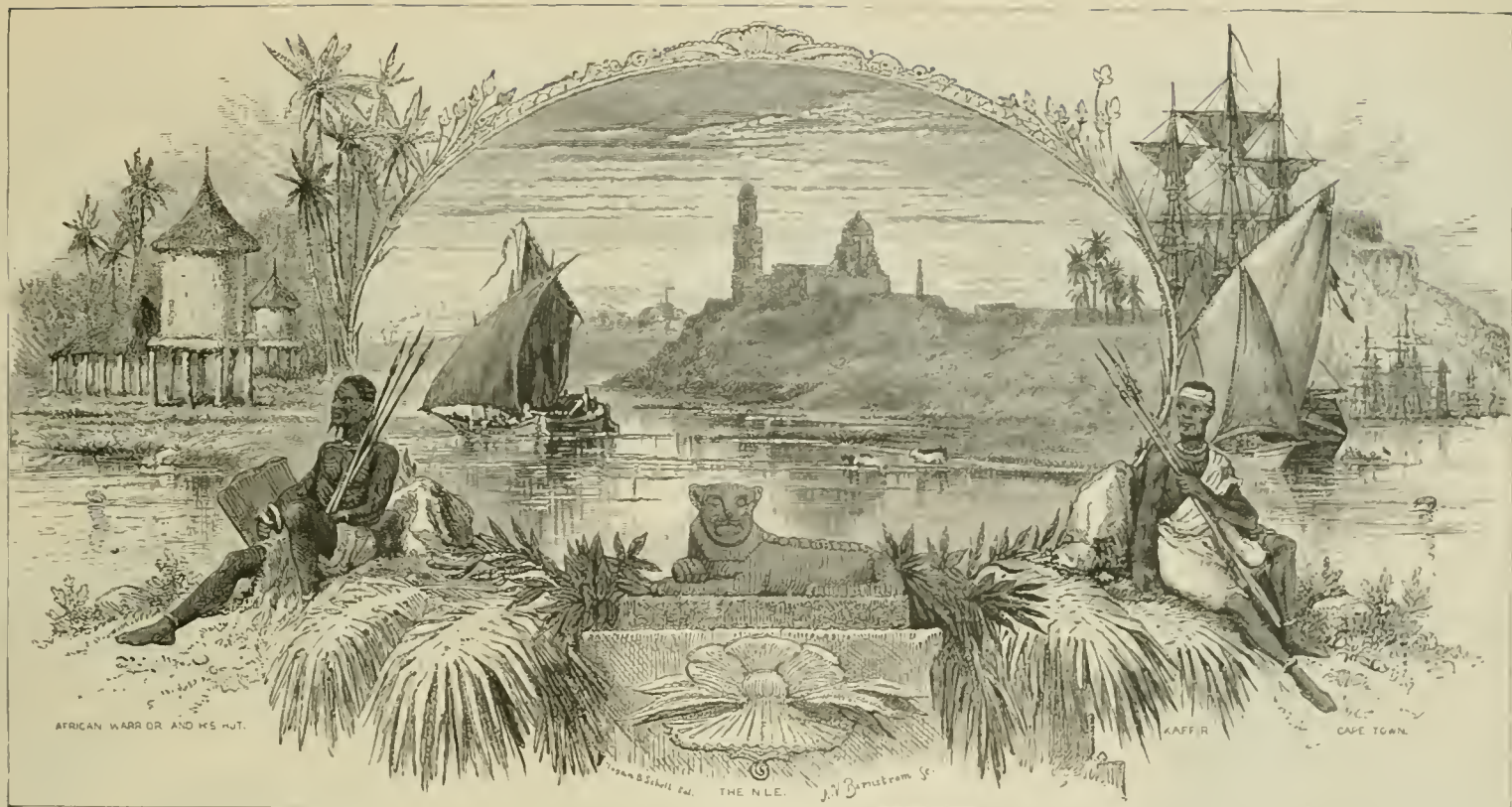
16. The Sandwich Islands, the most important group, produce sugar and cotton of an excellent quality. They contain many volcanoes; one of these, Mauna Loa, has the largest crater in the world; its black lava wall encloses a lake of fire. The government is a limited monarchy. The capital, Honolulu, is an important port.

NOTE.—The trade of the United States with the countries on the shores of the Pacific Ocean and with the islands scattered over its surface is rapidly growing in importance. From some of these islands the exports are already large in quantity and of great value. No other equal area of land surface on the globe is capable of yielding a larger amount of sugar, cotton, and other tropical products, and no people are so well situated to engage in this commerce as those occupying the western coast of the United States.

Questions (I).—1. What does Oceanica include? What great archipelagoes? What continent? What islands? What other division?—2. What is the population of Malaysia? Of what race and religion? Of what character and social condition? What is said of the climate?—3. What islands belong to Spain? What is the capital? What is said of it? What are the exports? What islands belong to the Netherlands? What is said of them? Of Java? Of Batavia?—4. What is Melanesia? By whom inhabited?—5. To what country do Australia, Tasmania, and New Zealand belong? What is the area of Australia? Name its colonial divisions. What is said of the area of Victoria?—6. What is said of the European population of Australia? Of the original inhabitants?—7. How are the colonies governed?—8. What is the climate of Australia?—9. What is said of the trees of Australia?—10. Of the native animals?—11. Of the productions? Of the sheep and cattle? Of wool? Of gold?—12. How is the maritime commerce conducted? With what country? What are the means of internal communication? Name the important towns. What are the chief exports?—13. What is the character of the surface of Tasmania and New Zealand? What are the productions of Tasmania? Its capital? What is the size of New Zealand? What are the chief exports? What city is the capital?—14. Of what does Polynesia consist?—15. Of what race are the Polynesians? In what social state? What three important exceptions?—16. What is said of the Sandwich Islands? Of their volcanoes? Government? The capital?

(II).—5. What is said of the interior of Australia? Of the mountains? Of the lowlands? Of the coasts? Of the rivers?—12. How do the Australian colonies communicate with Great Britain? How is the commercial system of Australia connected with that of the United States?—14. How are the islands arranged? What do they seem to be? What is an atoll?





CV.

QUESTIONS ON THE MAP.

In what zone is most of the continent of Africa? (See Physical Map.) What waters surround it? What cape at the northern extremity? At the eastern? The southern? The western? Near Cape Agulhas? What great island is nearly parallel to the eastern coast? What channel between them? What mountains parallel to the southern coast? To the Gulf of Guinea? To the Mediterranean Sea? What desert is crossed by the Tropic of Cancer? By the Tropic of Capricorn? What river in the northeastern part of Africa? Name its three principal branches. What plateau is partly drained by the Blue Nile? What lakes by the White Nile? Name other lakes in the Lake Region. What river flows into the Mozambique Channel? What rivers flow into the Atlantic Ocean? What islands northwest of Madagascar? East of Madagascar? (*Mascarene Islands*.) Name the two largest. What solitary islands in the Atlantic Ocean south of the Equator?

What general name is given to the countries forming the northwestern border of Africa? (See Political Map.) Name the Barbary States. What country occupies the northeastern part of Africa? What province in the southern part? In the southwestern part? What country southeast of Nubia? Northwest of Madagascar? North of Mozambique? What three British colonies in Southern Africa? What state northeast of Cape Colony? What general name is given to the western coast north of the Equator? South of the Equator? What countries west of Upper Guinea? What name is given to the coast north of Sierra Leone? To the country south of Sahara?

What city is the capital of Egypt? At the western mouth of the Nile? At the eastern mouth? What name is given to the triangular

piece of lowland having Cairo, Alexandria, and Damietta at the angles? (*The Delta, from its resemblance to Δ, the Greek letter D.*) What towns on the Suez Canal? What three cities in Abyssinia? What is the capital of Zanguebar? On what island? What is the capital of Madagascar? Name the capitals of Cape Colony and Natal. Of Orange Free State. Of Liberia. Of Sierra Leone. What city is the capital of Morocco? What city southwest of Fez? What three cities in Algeria? What is the capital of Tripoli? Of Tunis? Of Fezzan? Barca? What four cities in Soudan?

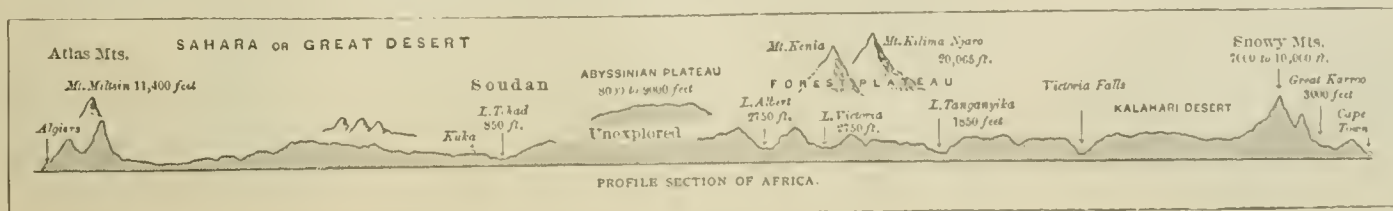
CVI.

REVIEW EXERCISES.

Principal Divisions and Subdivisions.—*Where is it?*—Barbary States? Morocco? Algeria? Tunis? Tripoli? Barca? Fezzan? EGYPT? Nubia? Egyptian Soudan? Abyssinia? Zanguebar? Mozambique? Cape Colony? Natal? Transvaal? Orange Free State? Upper Guinea? Senegambia? Sierra Leone? Liberia? Lower Guinea? Sahara? Soudan?

Rivers.—*Where does it rise? In what direction does it flow? Into what body of water?*—Nile? White Nile? Blue Nile? Atbara? Zambesi? Orange? Congo? Niger?

Cities.—*In what part of the country? How situated?*—CAIRO? Alexandria? Damietta? Port Said? Suez? GONDAR? Antalo? Ankobar? ZANZIBAR? TANANARIVO? BLOEMFONTEIN? CAPE TOWN? PIETERMARITZBURG? PRETORIA? MONROVIA? FREE TOWN? FEZ? Morocco? ALGIERS? Constantine? Oran? TUNIS? TRIPOLI? MOURZOUK? BENGAZI? TIMBUCTOO? KANO? SOKOTO? KUKA?





PHYSICAL AFRICA.

CVII.

DESCRIPTION.

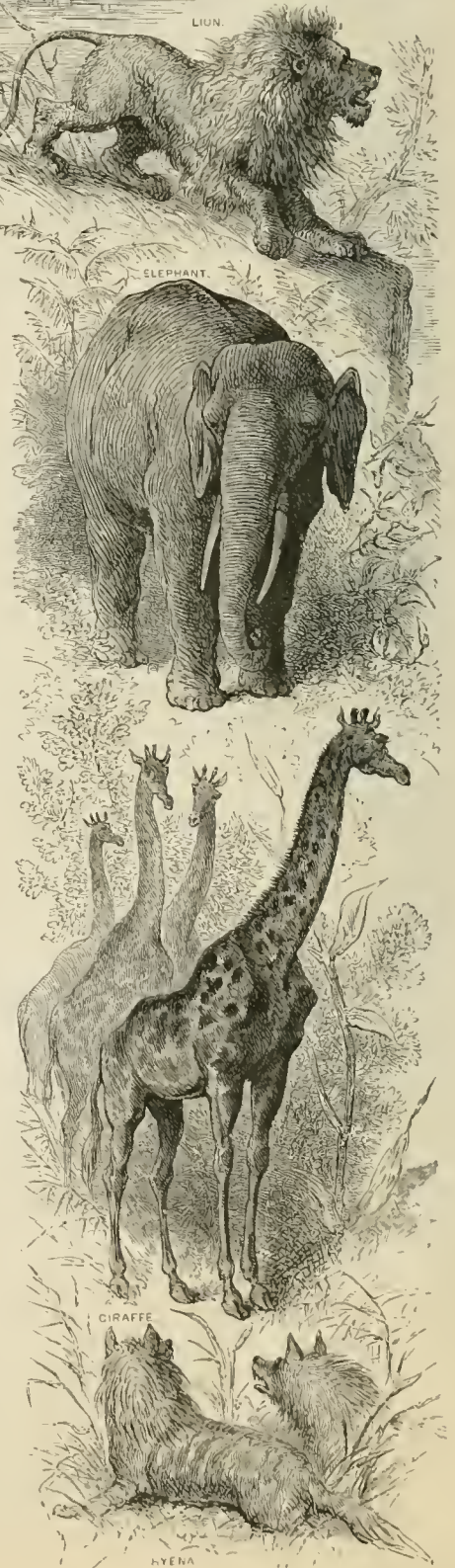
1. Africa contains about one half of all the land in the Torrid Zone. It has a larger proportion of plateau surface, more unbroken coasts, a hotter and dryer climate, more extensive deserts, and more numerous and gigantic animals than any other of the six continents. It also has a greater number of barbarian inhabitants than all the rest of the world together.

The northern tropic passes through the centre of the Great Desert, and the southern tropic through the Kalahari Desert. Between these desert belts is a broad fertile region, most of it being deluged with tropical rains during several months of the year. This belt contains the greater part of the population and of the vegetable and animal life. A smaller fertile belt is found in the Atlas region, and another in Cape Colony. The Great Karroo, in the southern belt, is a low plateau, similar in character to the llanos and pampas of South America. The continent has therefore five parallel physical belts, three of them broad tracts of fertile land, and two intermediate ones of desert.

2. **Surface.**—Nearly the whole surface consists of broad, low plateaus. The edges of the continent are partly bordered and its surface broken by short mountain ranges.

The highest plateau is that of Abyssinia. The longest mountain ranges lie along the eastern coast. These mountains contain the snow-covered peaks Kilima Njaro and Kenia, the highest in Africa. The Atlas Mountains, near the Mediterranean, and the Kong, near the Gulf of Guinea, are the only other important ranges.

3. A narrow strip of lowland extends between the mountain borders and the coasts and



along the southern base of the Atlas. The only other lowland lies near the centre of the continent.

4. The coast is remarkable for the deadliness of the climate and for the small number of islands, peninsulas, gulfs, and navigable rivers.

The entire northern coast has but one large river, the Nile; the eastern, the Zambesi; the western, the Niger, the Congo, and the Orange. A group of great fresh-water lakes lies upon the east side of the continent, some of which are connected with the Nile. Lake Tchad lies in the central lowland.

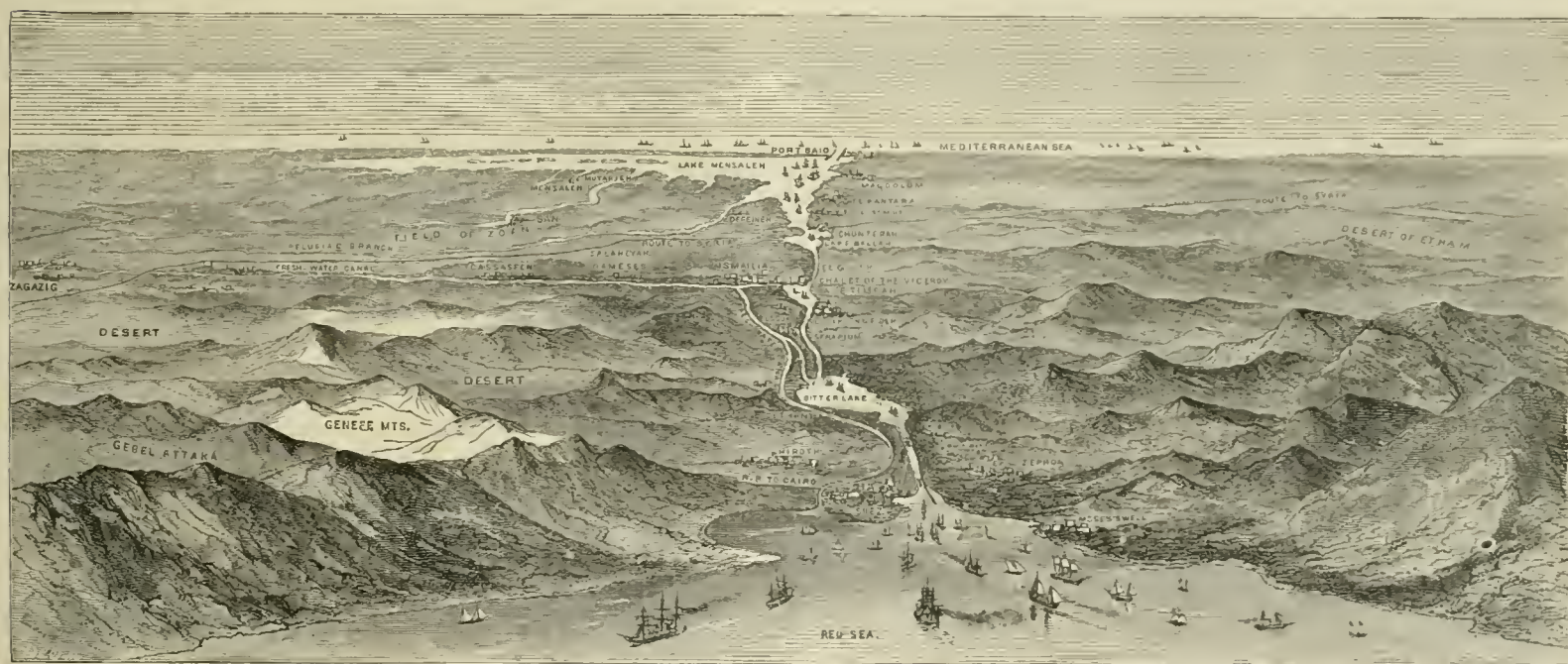
5. **Vegetation.**—Except in the middle belt, Africa is comparatively deficient in vegetation. The tropical forests, though covering a large part of the central belt, are less dense and less extensive than those of South America. Among the most useful trees are the oil-palm of Guinea, the date-palm of the Barbary States

and the oases, and the acacia, which supplies the gum-arabic of commerce.

6. **Animals.**—Among the animals of the central belt are the elephant, rhinoceros, hippopotamus, giraffe, chimpanzee, and gorilla; in other parts of the continent are the gnu and other antelopes, the zebra, and the hyena. The ostrich and the sacred ibis are remarkable among birds, and the crocodile and the horned viper among reptiles.

Questions (I.)—1. What part of the land of the Torrid Zone is in Africa? For what is Africa remarkable among the continents?—2. What is the character of the surface of Africa?—3. Where are the lowlands?—4. What is said of the coast?—5. Of the vegetation?—6. Of the animals?

(II.)—1. What circle passes through the Great Desert? Through the Kalahari Desert? What lies between these desert belts? What does this fertile belt contain? What two other fertile belts? What is the relative position of these belts?—2. Which is the highest plateau? Where are the longest mountain chains? What peaks do they contain? What other important ranges?—4. What is said of the rivers? Of the lakes?



THE SUEZ CANAL.

POLITICAL AFRICA.

CVIII.

DESCRIPTION.

1. **Population.**—The population of Africa is estimated at 206 millions. The inhabitants of the Sahara and the countries north and east of it are mostly of the Caucasian race, though much darker than Europeans. The negro race occupies nearly the whole continent south of the Sahara, and forms much the greater part of the population.

2. **Government.**—All the native governments are despotisms, and, except in Egypt and the Barbary States, are of the rudest and simplest description.

3. **Commerce.**—The limited commerce of Africa is in the hands of the white race. Caravans cross the Great Desert from the Barbary States by the lines of oases, and barter European and Asiatic manufactures for the gold, gums, ivory, and ostrich feathers of Central Africa. Similar articles from the interior are brought to the eastern and western coasts. The Suez Canal and

the Alexandria and Suez Railway are a part of the commercial systems of Europe and Asia.

Questions.—1. What is the population of Africa? How is it distributed?—2. What is said of the native governments?—3. What race controls the commerce of Africa? Describe the caravan trade. To what commercial systems do the Suez Canal and Railway belong?

CIX.

CAUCASIAN AFRICA.

1. **Egypt.**—Egypt and its dependencies, Nubia and Egyptian Soudan, occupy the Valley of the Nile from the Equator to the Mediterranean. They are a portion of the Turkish Empire.

2. **The Nile.**—The heavy tropical rains in Abyssinia and farther south cause the Lower Nile to overflow its banks from June to December.

The water slowly rises for three months, and as slowly subsides, leaving a narrow river for the rest of the year. A belt of low land from one to seven miles wide, crossing the desert region from the mountains to the sea, is thus alternately a continuous lake and a broad green ribbon of grasses and cotton. Not a single stream joins the Nile for the last 1200 miles of its course, rain being almost unknown except in the Delta.

This remarkable valley was for thousands of years the seat of a powerful empire, famous for its wealth, industry, learning, and skill in the arts. The pyramids and temples of ancient Egypt have been preserved by the dry climate, and are the most stupendous and magnificent ruins in the world.

Egypt is by far the most important country in Africa. It is the only one that resembles Europe in its manufactures, agriculture, education, railways, and telegraphs, and in the organization of its army and navy.

3. **Government.**—The government is a despotism. The chief ruler is called the Khedive, or Viceroy.

4. **Commerce.**—Alexandria and other cities export large quantities of grain and cotton. The Suez Canal, recently completed, belongs to Egypt, and is the most important maritime trade route in the world. It connects the commerce of Europe with that of southern and eastern Asia. An important railway connects Alexandria, Cairo, and Suez, and forms a portion of the overland route to India.

5. **Population.**—The population of Egypt and its dependencies is about seventeen and a half millions; four and a half millions are in Egypt.

Most of these are of Arab descent; the remainder are Berbers and other African tribes, with a small number of Copts, who are descended from the ancient Egyptians. The Turks are the ruling class, and Mohammedanism is the prevailing religion.

6. Cairo, the capital, is the largest city in Africa. Alexandria is the second city and largest sea-port. Port Said and Suez are at the ends of the great canal.

7. **Barbary States.**—The Barbary States are Morocco, Algeria, Tunis, Tripoli, and Barca.

The Barbary States are so called from the Berbers, a pastoral and agricultural people occupying the Atlas region. The other principal races are the Moors, the Arabs, the Turks from Asia, and the French from Europe; all but the last are Mohammedans.

The fertile valleys and slopes of the Atlas are called the "Tell," or Grain Country. South of the Tell is the Sahara, or Country of Oases; it abounds in dates. The name Sahara is also given by European geographers to the Great Desert.

8. **Morocco.**—Morocco derives its name from the Moors. It is a semi-barbarous country, governed by a sultan. It exports wool, hides and skins, wheat, and almonds. Fez, the capital, is the western depot of the caravan trade between Europe and Central Africa.

9. **Algeria.**—Algeria is a province of France. It exports grain, dates, cotton, indigo, and sugar. The chief cities are Algiers, the capital, Constantine, and Oran.

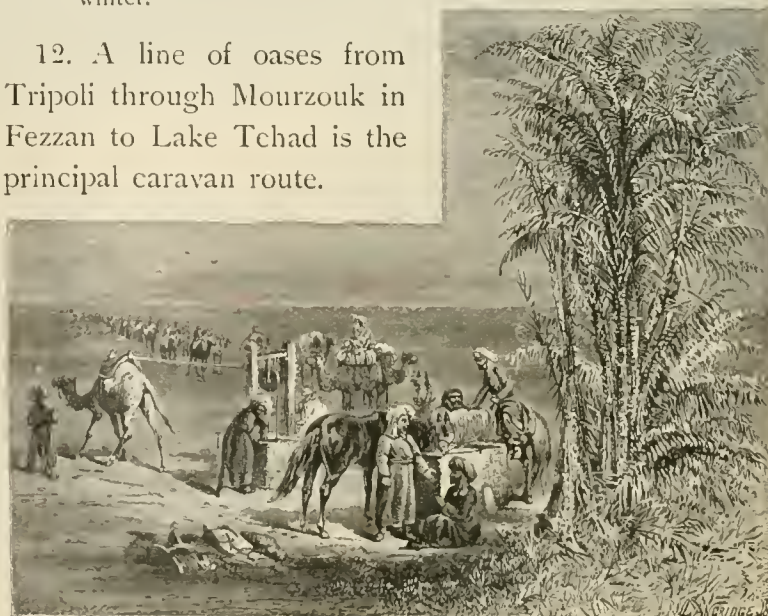
Europeans form but a small part of the population, and are mostly in the sea-port towns. The rest of the inhabitants are about equally divided between the Berbers of the Tell and the Arabs of the Sahara, which here contains many small oases.

10. **Tunis.**—Tunis, Tripoli, and Barca are unimportant states, and are dependencies of the Turkish Empire. They export olives, oil, grain, and dates. Fezzan is a dependency of Tripoli. Tripoli, the capital of Tripoli, has a large caravan trade with Central Africa.

11. **Sahara.**—The Sahara is the most extensive desert on the globe.

It is the western portion of the desert belt that extends from China to the Atlantic Ocean. It consists of rocky plateaus and mountain ridges, separated by broad tracts of gravel or shifting sand. Rain falls during certain parts of the year in the mountain regions, and oases occupy the low and moist spots. In the higher plateaus the people are said to wear furs in the winter.

12. A line of oases from Tripoli through Mourzouk in Fezzan to Lake Tchad is the principal caravan route.



THE EDGE OF THE DESERT.

This line divides the Sahara into two parts. The western, called the "sabel," or "plain," is sandy, and has few oases; it furnishes Soudan with salt. The eastern is the Libyan Desert, and has many oases. East of the Nile is the Nubian Desert.

13. Population.—Sahara is sparsely populated. The inhabitants are similar in their habits to the Bedouin Arabs.

14. Abyssinia.—Abyssinia is the most elevated country in Africa. Many of its mountain peaks are covered with snow during the greater part of the year. The country is in a barbarous condition, and has little or no commerce. Gondar, Antalo, and Ankobar are the chief cities.

Questions (I.)—1. Where are Egypt and its dependencies situated? Name the dependencies. Of what empire is Egypt a part?—2. How do the tropical rains affect the Lower Nile?—3. What is the government?—4. What are the exports? What is said of the Suez Canal? What railway in Egypt?—5. What is the population of Egypt?—6. What city is the capital? For what is Alexandria noted? Where are Port Said and Suez?—7. Name the Barbary States.—8. From what does Morocco derive its name? What is its social condition? Its government? Its exports? Its chief trade centre? Its capital?—9. Of what country is Algeria a province? What are its exports? Its capital and other cities?—10. What is said of Tunis, Tripoli, and Barca? What are their exports? What is said of Fezzan? What is the capital of Tripoli? For what is it noted?—11. How does the Sahara compare with other deserts?—12. Where is the great line of oases?—13. What is said of the population of Sahara?—14. Which is the most elevated country in Africa? What is the social condition of the country? Name the chief cities.

(II.)—2. Describe the effect of the tropical rains upon the Lower Nile. For what was ancient Egypt remarkable? What is the present condition of the country? In what respect does it resemble Europe?—5. To what races do the people belong? Who are the ruling class? What is the prevailing religion?—7. Why are the Barbary States so called? What are the other principal races? Of what religion are they? Where and what is the Tell? The Sahara?—9. What part of the population of Algeria is European? Who are the rest of the inhabitants?—11. Of what is Sahara a part? Of what does it consist? What and where are the oases?—12. How does the line of oases divide the Sahara? What is said of the western part? The eastern part? What other desert east of the Nile?

CX.

NEGRO AFRICA.

1. Coast Regions and Climate.—The greater part of the lowlands along the western and eastern coasts has a hot, moist climate. North of the mouth of the Orange River the coast for seven hundred miles is entirely desert. The interior is little known.

2. Colonies.—A line of European colonies and trading towns extends from Cape Verde to the Cape of Good Hope, and thence to Mozambique. Cape Colony, Natal, and Caffraria are the most important, and belong to Great Britain. Transvaal and Orange Free State are independent Dutch republics.

On the western coasts are Senegambia, in part claimed by the French; Sierra Leone, a British colony of negroes rescued from slave-ships; Liberia, an independent republic of negroes from the United States. The rest of the Guinea ports belong to England, Portugal, and Spain.

On the eastern coast Mozambique is partly in possession

of the Portuguese. The coast of Zanguebar is held by the Arabs; Zanzibar, the capital, is the residence of the Sultan.

3. Exports.—The principal exports from the eastern and western coasts are the palm-oil of Guinea, gums, spices, sugar, ivory, ostrich feathers, and gold; from the southern coasts wool, hides, tallow, ostrich feathers, and diamonds.

4. Soudan.—Soudan is a broad fertile belt crossing the continent south of the Great Desert. The principal cities are Kano, Sokoto, Kuka, and Timbuctoo. They have a great caravan trade to the Mediterranean coasts. The exports are gold, ivory, ostrich feathers, and gum-arabic.

In its heavy tropical rains, extensive forests, fertile soil, and great heat, Soudan somewhat resembles the selvas of the Amazon. It contains a large number of populous, semi-barbarous states.

Most of the inhabitants are Mohammedans, the rest Pagans. The religion of the Pagan negroes combines a belief in evil spirits, witchcraft, and magic charms, and is known as Feticism.

5. South Central Africa.—The central plateau south of Soudan is but little known. Ivory is the principal article of commerce.

Large fresh-water lakes lie south of the Equator and towards the eastern side of the continent. The Victoria Falls in the Zambesi River are exceeded in grandeur only by those of Niagara. In the extreme south is the Kalahari Desert.

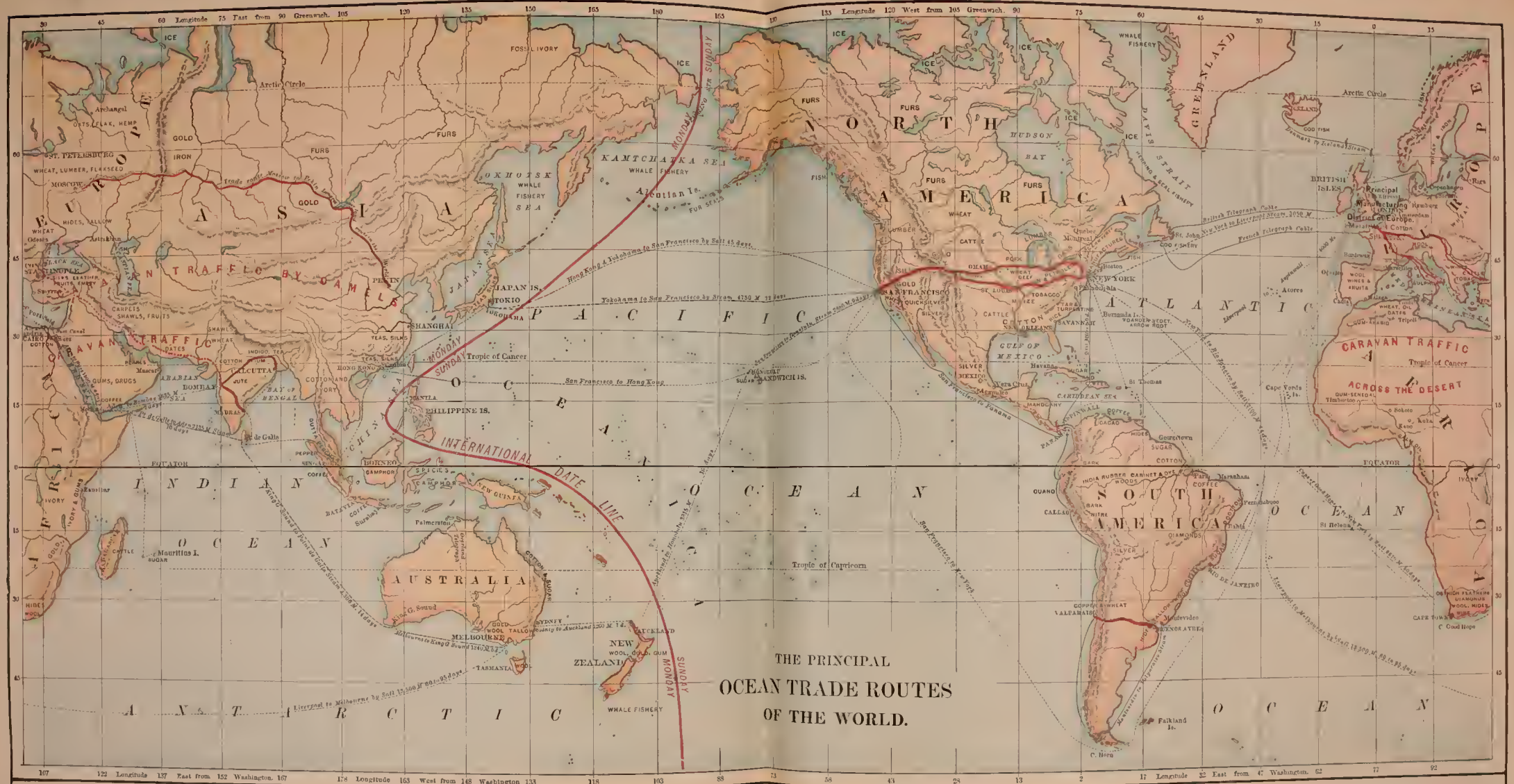
6. African Islands.—Madagascar is about equal in area to the five North Central States of the United States. The government is a despotic monarchy. The capital and largest city is Tananarivo. Tamatave, the chief port, exports cattle and rice.

Mauritius, belonging to Great Britain, exports sugar, and is a stopping-place for vessels crossing the Indian Ocean. Reunion, or Bourbon, is a French colony.

The Atlantic Islands are of small size, and are precipitous, volcanic rocks. St. Helena and Ascension belong to Great Britain. The Cape Verde and the Madeira Islands, belonging to Portugal, and the Canaries, belonging to Spain, export wine, sugar, and coffee.

Questions (I.)—1. What is the character of the climate of the eastern and western coasts of Africa? What long desert coast? What is said of the interior?—2. Where are the European colonies? Which are the most important? To what country do they belong? What are Transvaal and Orange Free State? What other colonies are there? What republic? To what nations do the other ports belong? Who hold the eastern coast? What is the capital of Zanguebar?—3. What are the exports?—4. What is Soudan? Mention its chief cities. With what coasts do they trade, and how? What are the exports?—5. What region of Africa is yet but little known? What is the principal article of export?—6. To what states is Madagascar equal in surface? What is the government? Which is the capital city? The chief port? Its exports? What is said of Mauritius? Of Reunion? What is the character of the Atlantic Islands? To what country do St. Helena and Ascension belong? What other islands? To what countries do they belong? What are their exports?

(II.)—4. What does Soudan resemble? What does it contain? Of what religions are the inhabitants of Soudan? Describe the religious belief of the Pagan negroes.—5. Where are the fresh-water lakes? What is said of the Victoria Falls? What desert in the south?



QUESTIONS ON THE MAP.

Name the chief Atlantic ports of North America. Which one is the most important? What ports on or near the Gulf of Mexico? Name the chief Pacific ports of North America. Which is the most important? Which are the two chief river-ports of the St. Lawrence? Of the Mississippi?

Which is the most northwesterly port of South America? (79*) What port near the eastern extremity of South America? What ports between Aspinwall and Pernambuco? Between Pernambuco and Cape Horn? Name the principal Pacific ports of South America. Which one is farthest north? Near what Caribbean port is it? By what are they connected? (80)

*The numbers in this lesson refer to pages in the book where the answers may be found.

Name the two principal ports of the British Islands. For what is the port of London remarkable? (81) What ports in Ireland? (82) In Scotland? (83) Which is the chief port of the north of France? (84) What ports of Europe are on or near the North Sea? (87, 92) On or near the Baltic? (87, 92). In Ireland? (87) Name the chief ports of Europe between the Strait of Dover and the Strait of Gibraltar. (92) Name three Spanish ports on the Mediterranean. (92) Name the chief French port. (94) The chief Italian ports. (92) In Sicily. The chief port of Austria. (96) Of Greece. (96) Of Turkey. (92) What port on the White Sea? (87)

Name the chief Mediterranean ports of Africa. (114) The Atlantic ports. (114) What port near the southern extremity of Africa? What ports on the eastern coast? (114) At the ends of the Suez Canal? (114) What Asiatic ports are on the Mediterranean Sea?

(102) The Red Sea? (102) Persian Gulf? (102) Arabian Sea? (102) On or near the Bay of Bengal? (102) The China Sea? (102) What Pacific ports of Asia are north of Canton? (102) Name the chief ports of Australia. Tasmania. (111) New Zealand. The Indian Archipelago. The Sandwich Islands.

Where is the chief manufacturing district of Europe? Of North America? What European port has a very large trade with the United States? (91) What are the principal exports from New York to Liverpool? (64, 90) How do these articles reach New York? (34, 42, 64, 65) From what parts of the United States does most of the wheat come? Of the maize? Silver? Tobacco? Provisions? Petroleum? Gold? Iron? Why does not New York export dry-goods and iron to Great Britain? (100) What other ports of the United States have an important share of the foreign trade? (101)

Which are the chief cotton ports? (New Orleans, Galveston, Mobile, Savannah, Charleston, Norfolk, and New York.) The chief grain ports? (New York, Boston, Philadelphia, and Baltimore.) What are the chief exports from Liverpool to the United States? (34) Name the articles of commerce between French ports and those of the United States. The German ports. Russian ports. Spanish. Italian. Turkish. Greek.

A steamer from London to Smyrna, with an assorted cargo, touches at Cadiz, Gibraltar, and the leading ports of the Mediterranean: what classes of articles will probably constitute the chief part of her cargo? The same vessel sails from Smyrna to New York, stopping at the Mediterranean ports: what articles will she probably bring? She then sails from New York for London: what will her cargo now probably be? A steamer from New York to Rio Janeiro touches at

St. Thomas, W. I., and other intermediate ports: what articles is she likely to carry out? To bring back? Why not cotton? What cargoes from New York to Montevideo and Buenos Ayres? What return cargoes?

How far by steamer from New York to Aspinwall? To New Orleans? At what port do New York and New Orleans steamers touch? (Havana.) Name the chief exports of western South America.

What are the chief exports of San Francisco? Where is most of the gold and silver sent? (To New York and China.) Of the wheat and flour? (To England.) With what Chinese ports has San Francisco an important trade? What Japanese ports? With what ports of Australia? New Zealand? Sandwich Islands? South

*Remember that the manufactures of nearly all countries except those of Western Europe, Eastern North America, and Eastern Asia are very limited.

America? Mexico? Why does the steamer-route from Yokohama to San Francisco differ from the route by sail? Whence does San Francisco import most of its coal? (Australia and British Columbia.) Name six of the chief cities on the great railroad routes between San Francisco and New York. (66, 67)

What are the chief exports of Tasmania, New Zealand, and Australia? To what country? What articles are probably imported in return?

Where are the chief whale fisheries? Whence are the chief cod fisheries? Other fisheries? Whence are the chief supplies of ivory? Ostrich feathers? Gums? Drugs? Opium? Teas? Tobacco? Silk? Cotton? Coffee? Sugar? Jute? Pepper? Flax-seed? Wheat? Maize? Hides? Furs? Silver? Gold? Copper? Iron? In what parts of the world is traffic still carried on by caravans?

PHYSICAL GEOGRAPHY—GENERAL REVIEW.

How is the earth known to be a globe? What has caused it to be flattened at the poles? What is the length of the polar diameter? Of the equatorial diameter? Of the circumference? Describe the general physical condition of the earth. (*Ans.* The earth is by many supposed to be a slowly cooling and shrinking ball of matter, which was once entirely in a molten state. Its cooled and hardened crust is comparatively thin, and is the surface upon which we live. Mountain ranges are the folds, ridges, and lines of fracture of the crust. The broad hollows of the surface are partly filled by the ocean. Volcanoes are openings to the still melted interior of the earth, and are mostly found upon the lines of fracture.) What evidences have we of the heat of the interior of the earth? (*Ans.* Volcanoes, hot-springs, earthquakes, and the gradual increase of heat with the depth in deep borings and mines.)

Name the two great land masses. What is the position of the line of direction of each? How many continents in each? What separate continent is there? Name the six continents in the order of their size. How are most of the islands arranged? How many classes of islands are there? What are continental islands? Where are the principal chains? What are oceanic islands? Where are the principal chains? What are volcanic islands? Coral islands? Where chiefly found? Name two of each class of islands.

What is a mountain system? Where is the longest system in the world? What is its direction? Where is it highest? Name the principal mountain chains of North America. Of South America. Where is the chief mountain system of the Old World? Where is it highest? Name the principal mountain chains of Asia. Of Europe. Of Africa. Of Australia. Where are most of the volcanoes of North America? In what countries? Where are the volcanoes of South America? What island chains of Asia abound in volcanoes? What can you say of the volcanoes of Malaysia? (*Ans.* They are more numerous than in any other equal area in the world.) What volcanoes complete the "fire circle" of the Pacific? (*Ans.* Those of Melanesia and New Zealand.) What oceanic islands of the Pacific contain volcanoes? Which has the greatest crater in the world? What volcanoes are in the Mediterranean Sea? In Iceland?

What is a plateau? Which continent has the greatest proportion of plateau surface? Which the least? Where are the great plateaus found in each continent? Describe the great plateau belt of North America. How high is it? What great mountain system rests upon it? Through what countries does it extend? Describe the Eastern Highland. What mountain system does it contain? Name some of the ranges. Where is the highest plateau belt of South America? What countries lie wholly or partly in it? In which is it highest and broadest? How high is it? What mountain system rests upon it? In what country is the broadest plateau of South America? Is it high or low? What mountains does it contain? Where is the chief highland belt of Europe? What countries lie wholly or partly in it? Which are its chief mountain chains? For what are the plateaus of Asia remarkable? In what parts of the continent are they? Name some of them. Which is the highest? How high is it? What mountain chains rest upon these plateaus? Which is the highest plateau of Africa? What mountains rest upon it? What can you say of the plateaus of Australia?

What is a lowland plain? Where is the great low plain of North America? By what is it divided? Into what two plains? Which way does each plain slope? How can you tell this by the map? What plain east of the Appalachian Mountains? Where is the great low plain of South America? Name its three principal divisions. What countries lie wholly or partly in each? Describe the llanos. The selvas. The pampas. Where is the great plain of Europe? What mountain walls partly enclose it? What countries lie wholly or partly in it? What other plains in Europe? In what countries? Where is the great lowland plain of Asia? With what other plain connected? What countries are in it? What great lakes in its western part? What plains in other parts of Asia? For what are the plains of China and Hindostan remarkable? In what part of Africa are the plains?

Name the five chief divisions of the ocean. Which are the three great oceans? Which is the largest? For what else remarkable? The Atlantic? The Indian? The Arctic? The Antarctic? Name the chief islands, border seas, and gulfs of the Pacific. Of the Atlantic. Of the Indian. From what level are all heights estimated? What can you say of it? (*Ans.* After allowing for the temporary effects of tides, winds, etc., the surface of the sea stands at the same level in all parts of the world.) What are ocean currents? What can you say of their extent? Of their causes? Name some of the principal currents. Of what use are they? Describe the equatorial currents. The Gulf Stream. The Japan Stream. The polar currents.

How high does the atmosphere extend? Where is it most dense? Why? At what height does plant life cease? Why? What can you say of the composition of the atmosphere and of the use of each part? (*Ans.* The atmosphere consists chiefly of a mixture of three gases. Dry air contains about one fifth part oxygen, nearly four fifths nitrogen, and about one five-hundredth part carbonic acid. There is also a variable quantity of watery vapor, which is the source of all rains and dews. The oxygen is the vital element in the breath of animals, but would destroy life if it were not so greatly

diluted with nitrogen. Carbonic acid furnishes all plants with carbon, of which they are chiefly composed.) What is the chief source of the watery vapor? What are the effects of the heat of the sun upon air? In what zone are these effects the most powerful? What are winds? Describe the trade-winds. The counter-trades. In what respects are winds similar to ocean currents? Of what uses are winds?

What is climate? Upon what does it chiefly depend? How affected by latitude? By elevation? By sea winds? By land winds? By ocean currents? By distance from the sea? What is meant by the annual rain-fall of a country? In which zone is it greatest? Describe the tropical rain-belt. How does it affect climate and vegetation? How do high mountains affect climate? What is the chief cause of deserts? Where is the great desert belt? What states or countries in each continent have a very dry climate?

What is a river system? A basin or valley? What great rivers flow into the Arctic Ocean? What plains do they drain? What great rivers flow into the Atlantic and its seas, etc.? What plains or what plateaus do they drain? Which is the most extensive river system of North America? Name some of the principal branches. Of South America? The chief branches? What great rivers flow into the Indian Ocean? What plains or what plateaus do they drain? Into the Pacific? What plains or plateaus do they drain? What rivers of Europe and Asia do not flow into the ocean? Into what do they flow? Why are such lakes salt? Are there any salt lakes in the United States? Where? In any other part of the world? Where? Where is the Dead Sea? For what remarkable? In which continents are the two chief systems of fresh-water lakes? With what rivers and ocean are they connected? What is meant by "perpetual snow"? By the "snow-line"? How does its height vary? What are glaciers? How formed? Where found in Europe? In Asia? In North America? What is Greenland supposed to be? (*Ans.* An archipelago in which both land and sea are filled with glaciers.) What are icebergs? How formed? (See page 15.) (Another cause is that the lower ends of arctic and antarctic glaciers are sometimes pushed forward along the sea-bottom and into very deep water. Being lighter than the salt water, they have a tendency to float, and thus break off.)

Upon what does the character of vegetable life chiefly depend? (*Ans.* Upon climate and soil.) Where is the principal forest region of North America? What parts of it abound in pines and firs? Where are the prairie regions? What vegetation is found on the great western plains? Near the shores of the Arctic Ocean? Where is the western forest region? Which are its principal trees? Where are the largest trees in the world? What is the character of the vegetation of the West Indies and the low parts of Central America? Name some of its trees. Where are the grassy regions of South America? The desert regions? The great forest region? Name some of its most useful trees. The chief forest regions of Europe? Of Asia? Name some Asiatic plants. Where is the principal forest belt of Africa?

Name the chief food plants of the temperate regions of North America. Of the warmer regions and the West Indies. Of South America. Of southern Europe. Of the rest of Europe. Of southern Asia. Of Africa. Of Australia. Which is the principal grain of the world? (*Ans.* Rice; it supports more than one third of the human race.)

Name some quadrupeds found in the colder parts of North America.* What other quadrupeds are found in that continent? Name its largest reptile. The most remarkable birds. The most remarkable quadrupeds, birds, and reptiles of South America. Some of the quadrupeds of northern Europe. Of other parts of Europe. From what continent were most of our domestic animals originally derived? Name some of the most remarkable animals of northern Asia. Of desert Asia. Of southern Asia. What peculiarity have most of the Australian quadrupeds? Name some of the pouched animals. Some of the birds of Australia and their peculiarities. How is Africa remarkable in regard to its animals? Name some of them.

Name the five races of mankind. Which two are the most numerous? Which is the least? What part of mankind is comprised in each of the five races? Where is the Caucasian race found? The Mongol? The Ethiopian? The Malay? The American? For what is the Caucasian race distinguished? What races are found in North America? In what part of the continent are the Caucasians chiefly found? Of what race are the Esquimaux? (*Ans.* Mongol.) Where are they? (*Ans.* On the shores of Alaska and of the Arctic Ocean.) The Ethiopians? The Americans? What two races occupy Europe? Which are the chief European branches of the Caucasian race? Where are the Celts? The Teutons? The Slaves? To which branch do the Irish belong? The Welsh? The Germans? The English? The Russians? What peoples of Europe are Mongols? (*Ans.* Lapps, Finns, Turks, and Magyars.) What three races occupy Asia? What mountains separate the Mongols from the Caucasians? Of what race are the Persians? The Chinese? The Arabs? The Hindoos? The Japanese? The Tartars? In what part of the continent is the Malay race found? In what archipelago is the greater part of that race? What two races occupy Africa? Which is the more numerous? In what part is the Ethiopian race? The Caucasian?

* For mountains, plateaus, and plains, consult the physical maps and the sections of the continents.

* In the illustrations the animals of each continent are arranged in the general order of their latitude.

POLITICAL GEOGRAPHY—GENERAL REVIEW.

What is Political Geography? What does it include? Which are the principal forms of government? What is a republic? A monarchy? A limited monarchy? An unlimited monarchy? A kingdom? An empire? Give an example of each form of government. What form of government prevails in the New World? In the Old World? What empire in America? What republics in Europe? What title is usually given to the chief magistrate of a republic? Of a state? Of a city? To the sovereign of Russia? Of Prussia? Of Germany? Of Turkey? Of Egypt? Of Japan? What is the capital of a country? The metropolis?

What countries and islands of North America and the West Indies belong to Great Britain? To Spain? To Denmark? Which are independent? Name the capital of each country of North America. Its largest city. What language is spoken in the City of Mexico? Quebec? New Orleans? Havana? Guatemala? Which of the countries of South America are European colonies? Where are most of the civilized inhabitants of that continent? Name the capital of each country. The largest city. What language is spoken in Caracas? In Lima? In Rio Janeiro? In Valparaiso? In Bogota? In Buenos Ayres? How do the creoles of Spanish America compare with the other races in numbers? Which state of South America has the largest proportion of Europeans?

Which countries of Europe are empires? Which are republics? Which are kingdoms? Which is the most extensive monarchy in the world? Which is next in extent? Which of these two has the greater population? What countries are embraced in the Russian Empire? In what country is the greater part of its population? Of what races and religions are they? What countries are included in the British Empire? Of what races and religions are its inhabitants? In what country are the greater part of the inhabitants? Of what countries does the kingdom of Great Britain and Ireland consist? Name the capital and one large city in each. What language is spoken in London? In Edinburgh? In Dublin? In Wales? (*Ans.* Cymric.) In Western Ireland? (*Ans.* Erse.) In St. Petersburg? In Christiania? In Stockholm? In Copenhagen? In Amsterdam? In Brussels? In Paris? In Berlin? In Vienna? In Berne? In Lisbon? In Geneva? In Venice? In Naples? In Athens? In Constantinople? (*Ans.* Many languages.)

Name the foreign possessions of France. What name is given to the Swiss states? What peoples inhabit Switzerland? What is the proper title of Austria? What provinces are included in the empire? (See map.) What peoples constitute the population? Which is the most numerous? What kingdom is on the

Danube and the Save? On the Adriatic Sea? What can you say of the population of European Turkey? Which is the governing people? Of what race, origin, and religion? Name the provinces of European Turkey. Who is the head of the Mohammedan religion? What countries are included in the Turkish Empire? What titles are sometimes given to the Turkish government? (*Ans.* The Ottoman Porte and the Sublime Porte.) What are the character and effects of the government? Name the colonial possessions of Denmark. What two separate kingdoms of Northern Europe have the same king? Which of these is the more populous and powerful?

Name the countries of Asia. The capital of each. What European nations have possessions in Asia? Which are the Asiatic possessions of Russia? Of Great Britain? Of France? Of Turkey? Of the Netherlands? Of Spain? Name the divisions of Asiatic Russia. Which is the most populous? Name its capital. Describe the European population of Siberia. What countries are included in the Chinese Empire? Name in their order five governments which occupy more than half of the land surface of the globe. Where are the greater part of the inhabitants of the Chinese Empire? What is the form of government? Name the chief islands of Japan. What is the character of the government? By whom is British India governed? Who is Empress of India? What countries are included in Indo-China? What is the character of the native governments of Asia? Who are the Bedouins?

To whom do the Philippines belong? What is the capital? What city is the capital of the Dutch East Indies? Name the colonial divisions of Australia. What other British colonies are near Australia? To whom do the Feejee Islands belong? The Society Islands? The Sandwich? What is the character of the native governments of Africa? Name its most important countries. Name the capital of each. What countries of Africa are dependencies of Turkey? Of Egypt? Where are the Portuguese possessions? The English? The French? Name the Barbary States. Which of them is independent? What three independent republics in Africa? What coast is held by the Arabs? What African islands belong to Great Britain? To France? To Spain? To Portugal?

How many states in the United States? How many territories? What is the form of government? What city is the capital? What is a state? A territory? Name the physical groups into which the United States may be divided. Name the states in each group, and the capital and largest city in each state.

What provinces constitute the Dominion of Canada? Describe its form of government? Name the capital and the largest city of each province?

COMMERCIAL GEOGRAPHY—GENERAL REVIEW.

What is domestic commerce? Foreign commerce? What articles of commerce do the New England States supply to other parts of the country? The Middle Atlantic States? The South Atlantic? The South Central? The North Central? The West Central? The Pacific States? The rest of the Great Highland? Which is the chief article of export of the United States? Name other leading articles of export to Europe. To South America. To Asia. To the West Indies. Name the principal imports of the United States. Name in their order five of its chief sea-ports. With what country is our principal foreign commerce? Which are the chief articles of import from England? Scotland? France? Germany? Italy? Brazil? United States of Colombia? Venezuela? Mexico? Cuba? Canada? China? Japan? British India? Dutch East Indies?*

From what countries do we import coffee? Tea? Sugar and Molasses? Woolen goods? Cotton goods? Linens? Silk goods? Raw silk? Iron and steel goods? Salt? Spices? Fruits? Rice? Hides and skins? Dye-woods? India-rubber?

Name the chief Mediterranean ports of Spain. Of France. Of Italy. Of Austria. Of Turkey. Of Egypt. Of the Barbary States. Name the southern ports of Russia. The most northern port. The Baltic ports of Russia. Of Sweden. Of Denmark. Of Germany. The chief Atlantic ports of Norway. Of Germany. Of the Netherlands. Of Belgium. Of France. Of Spain. Of Portugal. Of England. Of Scotland. Of Ireland. Of British North America. Of the United States. Of Brazil. Of Guiana. Of Uruguay. Of the Argentine Confederation. Of Iceland. Name the chief port or ports of the Gulf of Mexico or of the Caribbean Sea belonging to the United States. To Spain. To Mexico. To Great Britain. To Venezuela. To the United States of Colombia. What ports of the Pacific Ocean are in China? In Indo-China? In Japan? In the United States? In Mexico? In the United States of Colombia? In Equador? In Peru? In Chili? In Australia? In New Zealand? In the Sandwich Islands? Which is the chief port or ports in the Dutch East Indies? In the Spanish East Indies? On the southern coast of Africa? On the eastern coast? On the Red Sea? The Arabian Sea? The Persian Gulf? The Bay of Bengal?

Tabular Reviews.—In addition to the numerous map reviews found in the text of this work, it may be found expedient to introduce topical reviews in the form of tabular synopses. Models are given below. The headings for the columns may be greatly varied. The number of topics for each lesson is left to the judgment of the teacher.

COUNTRIES.	NORTH BOUNDARY.	EAST BOUNDARY.	SOUTH BOUNDARY.	WEST BOUNDARY.
Mexico.....	United States.	Rio Grande and Gulf of Mexico.	Central America.	Pacific Ocean.
United States...	Dom. of Canada.	Atlantic Ocean.	Gulf of Mexico and Mexico.	Pacific Ocean.

COUNTRIES.	SURFACE.	MOUNTAINS AND PLAINS.	RIVERS.	LAKES.	CLIMATE.
Chili.....	Mountainous.	Andes.	None.	None.	Dry in N. Rainy in S.
Argentine Confederation	Level.	Pampas.	La Plata, Parana.	Salt Lakes.	Cold and dry in S. Tropical in N.

COUNTRIES.	GOVERNMENT.	RULER.	CAPITALS.	LARGEST CITIES.	EXPORTS.
Austria.....	Limited Monarchy.	Emperor.	Vienna.	Vienna.	Wheat, wine, and manufactures.
Italy.....	Limited Monarchy.	King.	Rome.	Naples.	Oil and manufactures.

STATES.	MOUNTAINS.	RIVERS AND LAKES.	RAILROADS.	PRODUCTS.	CAPITALS AND CHIEF CITIES.
New York...	Adirondack, Catskill.	Hudson R., Genesee R. Seneca L., Cayuga L.	N. Y. C. & Hudson R., N. V., L. Erie, & W.	Iron, Salt, Butter, Cheese, Manufactures.	Albany, New York.
Pennsylvania	Alleghany, Blue, etc.	Susquehanna R., Alleghany R., Monongahela R.	Pennsylvania	Iron, Coal, Petroleum, Manufactures.	Harrisburg, Philadelphia.

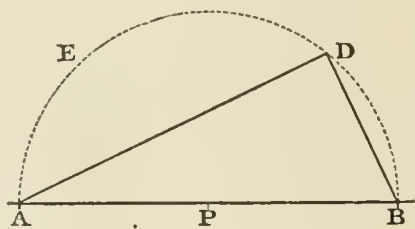
* For valuable statistics of the commerce of the world, see page 125.

CARTOGRAPHY.

Order of the Maps.—To obtain the best results it is advised that the maps be taken in the following order: 1. The several states of the United States; 2. Groups of states; 3. The continents; 4. Separate countries of Europe; 5. The United States; 6. The hemispheres.

Materials and Conveniences.—1. Suitable paper. 2. Lead-pencils—No. 2 will generally be found the best for the work; keep sharp with fine file. 3. Ruler—one with a scale is best. 4. A flexible ruler will be found convenient, but is not indispensable; it should be a thin and narrow strip of cedar, or some other even-grained wood; a good piece of whalebone may be made to answer. 5. Dividers are convenient, but may be dispensed with. 6. Ink for going over the penciled coast-lines, and all other details; India ink is the best. 7. Colors: three colors—blue, yellow, and red—are indispensable; by proper mixtures of these all other necessary colors may be made. 8. Brushes, or hair-pencils, of different sizes, for laying on the colors—two or three are enough. It is also important to have two or more right-angled rulers of different sizes, for making true corners to the maps, etc. They may be readily constructed of cardboard in the following manner:

Upon a stiff piece of cardboard draw a straight line, A B, and measure off two equal parts, P A and P B. With P as the centre, draw the semi-circle A E B. From any point on the circumference, as D, draw lines to A and B. The angle D is a right-angle. Cut the card on the three lines forming the triangle; use a sharp knife.



It will often be necessary to divide a straight line into a certain number of equal parts.

1. To divide a line into 2, 4, 8, or 16 equal parts, when you have neither scale nor dividers: take a strip of writing-paper having a straight edge and just as long as the line to be divided; fold it very carefully once for halves, twice for fourths, etc., and then measure and mark these divisions upon the line.

2. To divide a straight line into *any number* of equal parts. Suppose A B to be the line, and that it is to be divided into five equal parts.

From either end draw a straight line, A C, of any convenient length, and, beginning at A, measure off upon A C as many equal parts (5) of any length as there are to be in A B. Draw a line from the last point (5) to B. Now from points 4, 3, 2, and 1 draw lines parallel to the line 5 B. They will divide A B into five equal parts.

To draw these lines exactly parallel, cut from a card an angle that will *exactly* fit into the angle at 5. Put one side of this card-angle upon the line A C, with the point exactly at 4, and draw the line 4 b. Do the same at 3, 2, and 1.



METHOD OF DRAWING.

Many plans have been devised to facilitate the accurate copying of maps. The simplest and most efficient is the method of equal squares. It has long been used in copying maps, pictures, plans, etc. The following example will sufficiently illustrate the method:

To draw the Map of North America—1. *Divide the map into equal squares.* Divide the upper and lower inner margins into four equal parts, marking the points lightly in lead-pencil. Commencing at the upper corners, measure off on the right and left margins distances equal to the divisions of the upper and lower margins. Connect each point with the point opposite by a lightly drawn pencil line. Observe that one of these lines is the central meridian of the map. The map is now divided into twenty equal squares and four parts of squares. These last may be omitted in drawing, if it be thought desirable. If retained, notice that they are about one quarter as wide as they are long.

2. *Prepare the paper.*—If the scale of the map is to be the same as that in the book, construct the twenty squares, using the same measures. If the map is to be on a larger or smaller scale, draw a line of suitable length for the upper margin, and

divide it into four equal parts. At the ends of this line draw two others at right angles to it, and measure off upon each five parts equal to those of the upper line; join the opposite points, and complete the diagram as before. Let all the lines be drawn lightly, so as to be easily removed with the rubber.

3. *To copy the map,* begin with the upper left-hand square, and draw the outlines lightly in pencil, being careful to observe in what parts of the square they are to be, and where they cross the sides of the square, and so proceed with each square. While drawing, rest your hand upon a piece of paper, so as not to soil your map. Always work from above downward. If very great accuracy is desired, subdivide each of the squares, both of the original and the copy, into four or more smaller squares, and proceed as before. The greater the number of squares, the more accurate may the copy be made. To prevent mistakes, it is desirable to number or letter the squares in some regular order.



If the meridians and parallels are to be inserted, mark lightly the places where they cross the sides of the squares, and draw them either with the flexible ruler or with the free hand.

In drawing the outlines, include only the coasts, islands, lakes, rivers, and the boundaries of countries. To fill in the details and complete the map, observe the following order:

1. Go over the meridians, parallels, and outlines slowly and carefully with a fine pen; use thin India ink. 2. *Draw the mountains.*—Use the lead-pencil. Practice first on a piece of paper: observe that the lines used are very fine; that they are divergent, not parallel; that they are in small groups, each of which has a blank space in the middle; that the higher mountains have two or three sets of lines and are darker near the blank centre. 3. *Letter the map.*—Use the lead-pencil. Practice first on paper: be very careful as to spacing the letters, and use the simplest styles. Begin with the names which are in large capitals; then insert the names of lakes, rivers, cities, capes, etc. As far as possible let the lines of letters follow the direction of the parallels. Go over mountains and letters with ink. Clear all pencil marks from the map before coloring. 4. *Color the map.*—Use only clean water to mix the colors. Do not color too strongly. If the first coat is too weak when dry, add another.

To avoid drawing pencil lines across the engraved map.—This may readily be done in any one of several ways. The following is the easiest and best: Procure at the stationer's a sheet of gelatine paper, such as is used in copying plans, etc. It is nearly as transparent as glass. The piece used may be of the same size as the map in the book, or it may be of one half or even of one quarter of that size. If of the full size, rule it into squares, as directed in 2. Blacken the lines carefully with ink, and let them dry, and repeat the process if necessary. To use this sheet lay it upon the map with the lines upon the under side, so that the central meridian and margins of the map exactly correspond with the lines upon the paper.

If a sheet of one half or one quarter the size is used, each large square must be divided into four smaller ones. Lay it upon the map so that its edges correspond with the central meridian and the margins, and, after drawing that half or fourth of the map, follow the same plan with the remaining portions.

Another method, very suitable for home work, is to use a small pane of glass of the half size or quarter size, and ruled into squares with a common pen filled with ordinary black paint mixed with varnish. Or the ruling may be done with a diamond, and the lines blackened. Use with the ruled side down. Still another plan is to make a frame of cardboard, or some other suitable material, and divide the enclosed space into squares by means of fine threads or wires.

Additional Hints.—Never begin to draw a line until you have carefully made up your mind as to just *where* it is to be and *what* it is to be.

Small squares will be found best for maps of separate states.

Observe that the meridians are not the same distance apart at the top of the map as at the bottom, and that only one of them is a perfectly straight line.

It will be useful to remember that a degree on the central meridian is about seventy miles.

The single-page maps in this book are all of one size, but are not drawn on the same scale.

North America.		North America—Continued.		Europe—Continued.		Asia—Continued.						
	Feet.		Feet.		Feet.		Feet.					
Mt. St. Elias.....	Coast Mountains	77,966	Mt. Holy Cross.....	Rocky Mountains.....	14,000	Mt. Rosa.....	Swiss Alps.....	15,223	Dhawalaghiri.....	Himalaya.....	26,826	
Popocatepetl.....	Mexico.....	17,540				Matterhorn.....	".....	14,835	Hindoo-Koosh.....	".....	20,000	
Orizaba.....	".....	17,176				Finstcr Aarhorn.....	".....	14,025	Mt. Elburz.....	Caucasus.....	18,572	
Whitney.....	Sierra Nevada.....	14,900				Jungfrau.....	".....	13,718	Mt. Demavend.....	Persia.....	18,500	
Rainier.....	Cascade Mountains.....	14,444	Aconcagua.....	Andes.....	22,422	Mt. Lseran.....	French Alps.....	13,271	Mt. Ararat.....	Turkey.....	16,960	
Shasta (vol.).....	".....	14,440	Sahama (vol.).....	".....	22,350	Mt. Mulhacen.....	Sierra Nevada.....	11,660	Fujiyama (vol.).....	Japan.....	14,000	
Tyndall.....	Sierra Nevada.....	14,386	Chimborazo (vol.).....	".....	21,424	P. Nethou.....	Pyrenees.....	11,168		Africa.		
Mt. Harvard.....	Rocky Mountains.....	14,384	Sarata.....	".....	21,286	Etna (vol.).....	Sicily.....	10,840	Kilima Njaro.....	".....	20,065	
Grays Peak.....	".....	14,341	Olimani.....	".....	21,145	Vesuvius (vol.).....	Italy.....	3,948	Mt. Kenia.....	".....	18,000	
Mt. Lincoln.....	".....	14,297	Cotopaxi (vol.).....	".....	19,500		Asia.					
Longs Peak.....	".....	14,271	Antisana (vol.).....	".....	19,137	Everest.....	Himalaya.....	29,062		Australia.		
Uncompahgre Peak.....	".....	14,235				Dapsang.....	Kara Korum.....	28,278	Mt. Kosciusko.....	Australian Alps.....	7,176	
Yale.....	".....	13,150				Kinchjunga.....	Himalaya.....	28,156	Mt. Hotham.....	".....	6,414	
Pikes Peak.....	".....	14,147	Mt. Blanc.....	French Alps.....	15,780							

MANUFACTURING. MINING.

States and Territories.	Improved Land.	Indian Corn.	Wheat.	Oats.	White Potatoes.	Sweet Potatoes.	Tobacco.	Cotton.	Wool.	Butter.	Cheese.	Hay.	Capital.	Product.	Product.
	<i>Acres.</i>	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>	<i>Pounds.</i>	<i>Bales.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Tons.</i>			
Alabama.....	6,375,706	25,451,278	1,529,657	3,039,639	334,925	3,448,819	452,426	699,654	762,207	7,997,719	14,091	10,363	\$3,668,008	\$13,565,504	\$365,968
Arkansas.....	3,593,603	24,156,417	1,269,719	2,219,822	402,027	881,260	979,220	608,256	657,368	7,790,013	26,301	23,295	2,953,130	6,756,159	33,535
California.....	10,691,698	1,993,325	29,017,707	1,341,271	4,550,565	86,284	73,317	.....	16,798,036	14,084,045	2,666,618	1,135,180	61,243,784	116,218,973	19,984,798
Colorado.....	616,169	455,968	1,425,014	640,900	383,123	.....	.....	.....	3,197,391	860,379	10,867	55,062	4,311,714	14,260,159	20,200,522
Connecticut.....	1,642,188	1,880,421	38,742	1,009,706	2,584,262	918	14,044,652	.....	230,133	8,198,995	826,195	557,860	120,480,275	185,697,111	147,799
Delaware.....	746,958	3,894,264	1,175,272	378,598	283,864	195,937	1,278	.....	97,946	1,876,275	1,712	49,632	15,655,822	20,614,438	169,863
Florida.....	947,640	3,174,234	422	468,112	20,221	1,687,613	21,182	54,997	162,810	3,553,156	2,406	149	3,210,680	5,546,448	.....
Georgia.....	8,294,720	23,292,018	3,159,771	5,544,734	249,590	4,397,778	228,590	814,441	1,289,560	7,424,448	19,151	14,109	20,672,410	36,440,948	553,799
Illinois.....	24,115,154	325,792,481	51,110,502	63,189,200	10,365,707	249,407	3,935,425	.....	9,033,066	53,657,943	1,036,069	3,249,019	140,672,066	414,864,673	8,911,279
Indiana.....	13,933,738	115,482,390	47,284,853	15,599,518	6,232,246	244,930	8,872,842	.....	6,167,498	37,377,797	367,561	1,301,983	65,742,962	148,006,111	2,165,384
Iowa.....	19,836,541	275,014,247	31,154,205	50,610,591	9,962,337	122,368	420,477	.....	2,971,975	55,481,958	1,075,988	3,613,941	71,045,926	492,327	1,625,927
Kansas.....	10,739,556	105,729,325	17,324,141	8,180,385	2,894,198	195,225	191,669	.....	2,855,832	21,671,762	483,987	1,589,987	11,192,315	20,843,777	2,436,841
Kentucky.....	10,731,683	72,852,232	11,356,113	4,580,738	2,269,890	1,017,854	171,120,784	1,367	4,592,576	18,211,904	58,468	218,739	45,813,038	75,483,377	1,217,976
Louisiana.....	2,739,972	9,839,689	5,034	229,810	180,115	1,318,110	55,954	508,569	406,678	916,049	7,618	37,029	11,442,468	24,205,193	.....
Maine.....	3,484,908	960,633	665,714	2,265,875	7,999,625	.....	250	.....	2,776,407	14,103,966	1,167,739	1,107,788	49,998,171	79,829,793	39,239
Maryland.....	3,342,700	15,968,533	8,004,864	1,794,872	1,497,017	329,590	26,082,147	.....	850,084	7,485,871	17,416	264,468	58,742,181	106,780,563	2,869,008
Massachusetts.....	2,124,311	1,797,768	15,768	645,159	3,070,389	450	5,369,436	.....	299,049	9,655,887	829,528	684,679	303,806,185	631,135,284	328,100
Michigan.....	8,296,862	32,461,452	35,592,543	18,130,793	10,924,111	4,904	83,969	.....	11,858,497	38,821,890	440,540	1,333,888	92,920,959	170,015,025	14,305,206
Minnesota.....	7,245,693	14,831,741	34,601,030	23,382,158	5,184,676	.....	69,922	.....	1,132,124	19,161,385	523,138	1,636,912	31,094,811	76,065,198	.....
Mississippi.....	5,213,397	21,340,890	218,890	1,959,620	303,821	3,610,660	414,663	963,111	734,643	7,454,657	4,239	8,894	4,727,600	7,518,302	.....
Missouri.....	16,745,031	202,414,413	24,966,927	20,670,958	4,189,694	431,434	12,015,657	20,318	7,313,924	28,572,218	283,494	1,077,458	72,507,844	165,386,205	4,828,845
Nebraska.....	5,801,702	65,450,135	13,847,007	6,555,875	2,150,893	13,628	57,979	.....	1,282,656	9,725,198	230,819	785,433	4,881,170	12,627,636	770
Nevada.....	344,421	12,831	69,298	186,860	302,143	.....	1,500	.....	655,012	3,353,188	17,420	95,853	1,323,300	2,179,626	17,318,090
New Hampshire.....	2,394,112	1,350,248	169,316	1,017,620	3,358,828	.....	170,843	.....	1,060,589	7,247,272	807,076	543,069	51,112,263	73,978,027	145,542
New Jersey.....	2,003,297	11,150,765	1,901,739	3,710,573	3,563,793	2,086,731	172,315	.....	441,110	9,513,835	66,518	518,990	106,226,593	254,380,236	3,391,782
New York.....	17,717,862	25,690,156	11,587,766	37,575,506	33,644,807	6,893	6,481,431	.....	8,827,195	111,922,423	8,362,590	5,240,563	514,246,575	1,080,696,596	5,522,143
North Carolina.....	5,431,191	28,019,839	3,397,393	3,838,068	722,773	4,576,148	26,986,213	389,598	917,756	7,212,507	57,340	93,711	13,045,639	20,095,037	154,450
Ohio.....	18,014,091	111,877,124	46,014,869	28,664,505	12,719,215	239,578	34,735,255	.....	25,003,756	67,634,262	2,170,245	2,210,923	188,939,614	348,298,390	8,077,188
Oregon.....	2,193,645	123,862	7,440,010	4,385,650	1,350,930	.....	17,325	.....	5,718,524	2,443,725	153,198	266,187	6,312,056	10,931,282	1,227,883
Pennsylvania.....	13,428,047	45,821,531	19,462,405	33,841,439	16,284,819	184,142	36,943,272	.....	8,470,273	79,936,012	1,008,686	2,811,654	474,510,993	744,818,445	65,559,576
Rhode Island.....	298,446	327,967	240	159,339	606,793	714	785	.....	65,680	1,007,103	67,171	79,328	75,575,943	104,116,621	15,440
South Carolina.....	4,132,050	11,767,099	962,338	2,715,505	144,942	2,189,622	45,678	522,544	272,758	3,196,851	16,018	2,706	11,205,894	16,738,008	40,805
Tennessee.....	8,496,556	62,764,429	7,331,353	4,722,190	1,354,481	2,369,901	29,365,052	330,621	1,918,295	17,886,369	98,740	186,698	20,092,845	37,074,886	785,543
Texas.....	12,650,314	29,065,172	2,567,737	4,893,359	228,832	1,460,079	221,283	805,284	6,928,019	13,899,330	58,466	99,699	9,245,561	20,719,928	.....
Vermont.....	3,286,461	2,014,271	337,257	3,742,282	4,438,172	.....	131,432	.....	2,551,113	25,240,826	1,545,789	1,051,183	23,265,224	31,354,366	521,033
Virginia.....	8,510,113	29,119,761	7,826,174	5,533,181	2,016,766	1,901,521	79,988,868	19,595	1,836,673	11,470,923	55,535	287,255	26,968,990	61,780,992	730,540
West Virginia.....	3,792,327	14,090,609	4,001,711	1,908,505	1,398,539	87,214	2,296,146	.....	2,681,444	9,369,517	100,300	292,338	13,883,380	22,567,122	2,064,942
Wisconsin.....	9,162,528	34,230,579	24,884,689	32,365,320	8,569,161	7,124	10,608,423	.....	7,016,491	33,535,045	2,281,411	1,896,969	73,821,802	128,255,480	317,636
The Territories.....	2,900,092	2,923,728	7,785,231	5,757,114	2,771,049	31,867	12,117	17,090	8,666,653	5,587,550	383,020	652,018	14,860,261	27,540,301	18,936,837
Total.....	284,771,042	1,754,591,676	459,483,137	407,485,999	169,458,539	33,378,693	472,661,157	9,765,359	155,681,751	777,250,287	27,272,489	35,205,712	\$2,790,272,006	\$5,369,579,191	\$405,985,400

PRONOUNCING VOCABULARY.

Abbeville.....	Ab be o koo' ta.	Annapolis.....	An nap' o lis.	Balkh.....	Bahlk.	Borneo.....	Bor' ne o.	Caribbee.....	Car e bee'.
Aberdeen.....	Ab er deen'.	Antalo.....	An tal' lo.	Ballston Spa.....	Bawlz' ton Spah.	Bosua Setai.....	Bos' ua e s ri'.	Carlie.....	Car lie'.
Abyssinia.....	Ab is sin' e a.	Antarctic.....	Ant arc' tic.	Balmoral.....	Bal' mo' ral.	Bosua.....	Bos' ne a.	Carlsruhe.....	Carl'z' roo.
Acapulco.....	Ac a pool' co.	Auticoati.....	Aut te cos' te.	Baltic.....	Bawl' tic.	Bosporus.....	Bos' po' rus.	Carolina.....	Car o li' na.
Acaray.....	Ah cah ri'.	Autietam.....	Aut tee' tam.	Baltimore.....	Bawl' te more.	Boeton.....	Bos' ton.	Carpathian.....	Car pa' the an.
Acarí.....	Ac a tee'.	Antilles.....	Ant teelz'.	Banca.....	Bang' ca.	Bothua.....	Both' ne a.	Cartagena.....	Car ta' je' na.
Acheen.....	A cheen'.	Antioquia.....	Ant te o kee' a.	Bangor.....	Bang' gor.	Boulogne.....	Boo' long'.	Cashmere.....	Cash mere'.
Aconagua.....	Ac on cah' gwa.	Antwerp.....	Ant' werp.	Banjamassin.....	Bahuy'er mahs sin'.	Bowdoin.....	Bo' d' in.	Caspian.....	Cas' pi an.
Acre.....	A' ker.	Apennines.....	Ap' en ninz.	Batukok.....	Bau kok'.	Bowling Green.....	Bo' ling Green.	Castle.....	Ca- teel'.
Adelaide.....	Ad' e lade.	Apostle.....	A pos' l.	Baranoff.....	Bar ran' off.	Boyne.....	Boin.	Catasauqua.....	Cat a snw' qua.
Aden.....	Ah' den.	Appalachian.....	Ap pa lah' che an.	Barbadoes.....	Bar ba' doze.	Brachmopootia.....	Brah ma poo' tra.	Catoche.....	Cah to' chay.
Adize.....	Ad' e je.	Appalachee.....	Ap pa lach' e.	Barbary.....	Bar' ba ry.	Brandenburg.....	Brán' den boorg.	Caitega.....	Cut' te gat.
Adirondack.....	Ad e ron' dack.	Appalachicola.....	Ap pa lach e co' la.	Barbuda.....	Bar bu' da.	Brandenburg.....	Brown' fels.	Caucasian.....	Caw ca' shum.
Admiralty.....	Ad' me ral ty.	Appomattox.....	Ap po mat' tox.	Barcelona.....	Bar ce lo' na.	Brazil.....	Bra zeel'.	Caucasus.....	Caw' ca sus.
Adrian.....	A' dre an.	Arab.....	A' ab.	Barleer.....	Bar cl' yure'.	Brazos.....	Braz' os.	Cayenne.....	Ki en'.
Adrianople.....	A dre an o' p' l.	Araguay.....	Ar a gway'.	Barnaui.....	Bar' nowl'.	Bremen.....	Brem' en.	Cayman.....	Ki man'.
Adriatic.....	A dre at' ic.	Aral.....	A' ar' l.	Barnegat.....	Bar' ne gat.	Bremerhaven.....	Bré' mer hah fen.	Cayuga.....	Ca yoo' ga.
Aegean.....	E je' an.	Ararat.....	A' ar a' rat.	Basle.....	Bahl.	Breslau.....	Bres' law.	Celebes.....	Cel' e bee'.
Afghanistan.....	Af gan is tan'.	Archangel.....	Ark ane' jel.	Bassorah.....	Bas' so ra.	Bretagne.....	Bre tabu'.	Ceram.....	Se rah'u.
Agua Calientes.....	Ag' was Cal e en' tes.	Archipelago.....	Ark e pel' a go.	Bathurst.....	Bath' erst.	Bretton.....	Bre' ton.	Cerigo.....	Cei' e go.
Agulhas.....	A good' yas.	Ardenes.....	Ar den'.	Baton Rouge.....	Bah' t' in Roogh'.	Brindisi.....	Brin' de se.	Cettigne.....	Chet tceu' yay.
Aisne.....	Auc.	Arequipa.....	Ah ray kee' pa.	Bavaria.....	Bah ya' re a.	Britain.....	Brit' t'n.	Cévennes.....	Say ven'.
Aix-la-Chapelle.....	Aks-la-Sha pel'.	Argentine.....	Ar' jen tine.	Bayonne.....	Bah yon' ne.	Brookline.....	Brook' line.	Ceylon.....	Ce lone'.
Ajaccio.....	A yat' cho.	Argyle.....	Ar' ghyle'.	Bayou Sara.....	Bi' oo Sa' ra.	Brooklyn.....	Brook' lin.	Chagres.....	Chah' gres.
Akaba.....	AK' a bah.	Arica.....	A ree' ca.	Beaufort.....	Be' fort (S. C.).	Bruges.....	Broo' jiz.	Chaleur.....	Sha l' yue'.
Akron.....	AK' ron.	Arizona.....	Ar i zo' na.	Beaufort.....	Be' fort (Af.).	Brunai.....	Broo' ni.	Chalons.....	Sha lóng'.
Alabama.....	Al a bah' ma.	Arkansas.....	Ar' kan saw.	Bedouin.....	Bed oo' een'.	Brunn.....	Bröon.	Champlain.....	Sham plane'.
Aland.....	Ah' land.	Arnhem.....	Arn' him.	Behring.....	Beer' ing.	Bruna.....	Broo' sa.	Champaigi.....	Sham pane'.
Alaska.....	Al as' ka.	Aroostook.....	A roos' took.	Beirut.....	Be' root.	Brussels.....	Brus' selz.	Chamaleur.....	Shan de l'yure'.
Albania.....	Al ba' ne a.	Ascension.....	As cen' shun.	Belfast.....	Bel fast'.	Bucharest.....	Boo ka rest'.	Chartres.....	Shnr' tr.
Albany.....	Awl' ba ny.	Ashantee.....	Ash an tee'.	Belgium.....	Bel' je um.	Buda.....	Bu' da.	Chattanooga.....	Shn taw' qua.
Albemarle.....	Al be marle'.	Ashabula.....	Ash ta bu' la.	Belgrade.....	Bel grade'.	Badweis.....	Bond' wise.	Chattahoochee.....	Chut ta hoo' chee.
Albert Nyanza.....	Al' bert N' yahn-za.	Asia.....	A' she a.	Belize.....	Be leez'.	Buenaventura.....	Bway na ven too ra.	Chattanooga.....	Chut ta hoo' ga.
Albuquerque.....	Al boo ker' kay.	Aspinwall.....	As pin wall.	Belle Isle.....	Bel lie'.	Buena Vista.....	Bwa na Vees' ta.	Chaudiere.....	Sho de nir'.
Alderney.....	Awl' der ny.	Assineboin.....	As sin' e buin.	Beloit.....	Be loi'.	Buenos Ayres.....	Bo' nos Air' ez.	Chiapas.....	Chie ah' pa.
Aleppo.....	A lep' po.	As-trakhan.....	As tra kan'.	Beloochistan.....	Be loo chis tan'.	Buffalo.....	Bul' fa lo.	Chelsen.....	Chel' se.
Aleutian.....	A l' yu' she an.	Asuncion.....	As soon' se one'.	Benares.....	Be nah' res.	Bulgaria.....	Bul ga' re a.	Cheltenham.....	Chel' nam.
Alexandria.....	Al ex an' dra.	Atacama.....	At a cah' ma.	Benecoleu.....	Ben coo' len.	Burgundy.....	Bur' gun dy.	Chemnitz.....	Kem' nitz.
Alexandria.....	Al ex an' dra.	Atbara.....	At bah' ra.	Benvenuto.....	Ben e ven' to.	Burmah.....	Bur' ma.	Chenung.....	She mung'.
Algiers.....	Al jeerz'.	Atchafalaya.....	Atch a fa li' a.	Bengal.....	Ben gawl'.	Bushie.....	Bu sheer'.	Chenango.....	She nang' go.
Alfante.....	Al e can' te.	Atchison.....	Atch' is on.	Bengali.....	Ben gah' ze.			Cherbourg.....	Sher' boorg.
Alfeghny.....	Al' le gay ny.	Atbasasca.....	Atb a bas' ca.	Bengali.....	Ben gah' ze.			Chesapeake.....	Ches' a peak.
Alfeghny.....	Al' le gay ny.	Atoll.....	A' tol.	Benicia.....	Be nish' e a.			Chetiot.....	Ch

Colorado	Col o lom' be a.	Enikale	En e kah' lay.	Hague	Hag.	Kelat	Ke lat'.	Mackenzie	Mac ken' ze.
Colombia	Col o rah' do.	Equator	E qua' tor.	Hainan	Hai nan'.	Kennebec	Ken ne bee'.	Mackinaw	Mack e naw'.
Comayagua	Co mi ah' gwa.	Erfurt	Er' fort.	Halle	Hal le.	Kennebunk	Ken ne bun'k.	Macon	Ma' con.
Comorin	Com o ri u.	Eric	E' re.	Hamburg	Ham' burg.	Kenosa	Ken o' sha.	Madaira	Ma de' ra.
Conception	Con sep se one'.	Erz	Er's.	Hammelfest	Ham' mer fest.	Kentucky	Ken tuck' y.	Madras	Ma dras'.
Conemangh	Con' e maw.	Erzroom	Er's room'.	Han-chau	Han chow'.	Keokuk	Ke o' kuk.	Madrid	Ma dreed'.
Congarree	Con' g' a tee'.	Escurial	Es coo' re ah'.	Hannibal	Han' e bal.	Kewanee	Ke waw' nee.	Madriston	May' l' strum.
Congo	Con' g' o.	Esmeralda	Es mer ah' da.	Hanover	Han' o ver.	Keewatin	Ke wa' tin.	Magdalena	Mag da le' na.
Connacht	Con' nawt.	Espinayo	Es pin yas' o.	Harleuer	Har' li yue'.	Khan	Kawn.	Magdeburg	Mag' de burg.
Connecticut	Con net' e cut.	Es-quimauca	Es' ke mo.	Harrisburg	Har' ris burg.	Khamate	Kawn' ate.	Maimatchin	Ma ma cheeu'.
Consequina	Con sa ghe' na.	Eshemaduca	Es tie ma du' ra.	Hart	Harts.	Kharloom	Kar loom'.	Malabar	Mal a bar'.
Constantine	Con stan teen'.	Enbea	Yoo be' a.	Hatteras	Hat' te ras.	Khivie	Ka' div.	Malacca	Ma lac' ca.
Constantinople	Con stan te no' p'l.	Enfaula	Yoo faw' la.	Havana	Ha van' a.	Khiva	Ke' va.	Malag	Mal' a ga.
Coomassie	Coo mas' se.	Euphrates	Yoo fra' teez.	Haverhill	Ha' ver il.	Khorasan	Ko ras san'.	Malay	Ma lay'.
Copenhagen	Co pen ha' gen.	Eureka	Yoo re' ka.	Havre	Hab' v'r.	Kilderminster	Kid' der min ster.	Malaya	Ma la' ya.
Copiah	Co pe ah' po.	Europe	Yoo' rup.	Havre de Grace	Hab' v'r de Grace'.	Kiel	Keel.	Malaysia	Ma la' she a.
Copimbo	Co keen' bo.	European	Yoo ro pe' an.	Hawaii	Ha wi' e.	Kiev	Ke ev'.	Malden	Mawl' den.
Cordova	Cor' do va.	Eutaw	Yoo' taw.	Hayi	Ha' te.	Kildare	Kil dair'.	Maita	Mawl' ta.
Corea	Co re' a.	Everest	Ev' er est.	Hebrides	Heb' te deez.	Kilnara Njaro	Kil e mah' jah ro'.	Maungna	Ma nah' gwa.
Corfu	Cor' foo'.	Eylan	Yoo' l' law.	Hecla	Hee' la.	Kilkenny	Kil ken' ny.	Maonyunk	Man a yunk'.
Corinth	Cor' luth.	Eyre	Air.	Heclia	Hee' la.	Kilmarney	Kil mar' uey.	Maoi aitan	Man hat' tau.
Corpus Christi	Cor' pus Kris' te.	Fahlun	Fah' loon.	Heidelberg	He' del berg.	King's town	King ke tab' o.	Mania	Man ne' la.
Corrientes	Cor re en' tes.	Falkirk	Fal' kirk.	Helena	He le' na.	Kiolen	Keer' len.	Manistee	Ma nist' te.
Corsica	Cor' se ka.	Falkland	Faw'k land.	Heligoland	Hel' e go land.	Kioto	Ke o' to.	Manitoba	Man e to' bah.
Corvallis	Cor val' lis.	Falmouth	Fal muth.	Helingsfors	Hel' ing forz.	Kishenev	Kish en ev'.	Manitowoc	Man e to woc'.
Costa Rica	Cost' ta Re' ka.	Faribault	Far e bo'.	Helvetschys	Hel' vet slouse.	Kissingen	Kis' ing en.	Manitowlin	Man e too' lin.
Cotopaxi	Co to pax' e.	Faroe	Fah' ro.	Henloopen	Hen lo pen.	Kittanning	Kit tan ning.	Marathon	Man tchoo' re a.
Coventry	Cov' en try.	Fayal	Fi awl'.	Hera	He rat'.	Kittanning	Kit ta tin' ny.	Maracaibo	Ma ra ki' bo.
Covington	Cov' ing ton.	Fayetteville	Fay et vil.	Hersford	Her' e ford.	Kittany	Kit' ter y.	Maracum	Ma ra cum'.
Cuzumel	Co zoo mel'.	Feejee	Fee jee.	Hertzegovina	Hert se go' ve na.	Klamath	Klah' mat.	Marango	Ma ren' go.
Cracow	Cra' co.	Feliciana	Fee le ce nah' na.	Hesse	Hee'se.	Kodiac	Ko' de nik.	Margarda	Mar ga re' ta.
Crimen	Cri me' a.	Fernandina	Fer nan de' na.	Himalaya	Him a li' a.	Kokomo	Ko' ko mo.	Marion	M e' on.
Croatia	Cro a' she a.	Ferrara	Fer rah' ra.	Hindoo-kooch	Hin doo kooch.	Konigsberg	Ka' nigs berg.	Mariposa	Mar i po' za.
Cronstadt	Cron' stat.	Ferrari	Fer role'.	Hindostan	Hin dos tan'.	Konigsbratz	Ka' nig brats.	Maritima	Mar' mo ta.
Cuenca	Kwen' sa.	Fezzan	Fez zan'.	Hing-Ho	Ho ang' Ho.	Koristad	Kor is' tad.	Marquette	Mar ket'.
Cunama	Coo na nah'.	Fingal	Fing gawl'.	Hoboken	Ho bo' ken.	Kurdistan	Koor di tan'.	Marquette	Mar ket'.
Curacao	Coo ra so'.	Finisterre	Fin is' tere'.	Hodeida	Ho di' da.	Kurite	Koo' reel.	Marsailles	Mar sailz'.
Cuyahoga	Ki a ho' ga.	Fiord	Fee ord'.	Hoguen	Hog.	Labrador	Lab ra do' e.	Masall	Ma' sil lon.
Cuzco	Cooz' co.	Flanders	Flan' derz.	Hohenlinden	Ho hen lin' den.	Lacridive	Lac' ca div.	Matapan	Mat a pan'.
Cyclades	Cyc' la deez.	Flourence	Flor' ence.	Hohenzollern	Ho hen tsol' lern.	Lackawanna	Lack a waw' na.	Mattawamkeag	Mat ta wam' keg.
Cyprus	Ci' prus.	Florida	Flor' e da.	Honduras	Hon doo' ras.	La Crosse	Lah Cross'.	Mattawamkeag	Mah' to Gros' so.
Czar	Zar.	Foix	Fwah.	Hong Kong	Hong Kong'.	Ladoga	La do' ga.	Mauch Chunk	Maw'k Chunk.
				Honolulu	Ho no loo' o.	Ladron	La drone'.	Maumee	Maw mee'.
				Huac (Tunnel)	Hoo' sac.	La Fayette	Lah Fay et'.	Mamma Loa	Mow' na Lo' a.
				Huac (River)	Hoo' sic.	Laguna	La goon'.	Mauritius	Maw rish' e us.
				Huac	Hoo' sic.	Lagos	Lah' go's.	Mayence	Mah yance'.
				Huac	Hoo' sic.	La Guayra	Lah Gwi' ra.	Mazatlan	Maz at' lan'.</

Newfoundland	New found land.	Pedee	Pe dee'.	Saarbruck	Sahr' brook.	Smirna	Smir' na.	Troyes	Trwah.
New Granada	New Gra nah' da.	Peipus	Pa' e pus.	Sabine	Sah be' mis.	Socotra	So co' tra.	Truxillo	Truo heel' yo.
New Guinea	New Ghin' ne.	Pekin	Pe kin'.	Sabine	Sa beu'.	Sokoto	So ko' to.	Tucson	Tuo son'.
New Orleans	New Or' le anz.	Peking	Pa tung'.	Sable	Sa' bl'.	Somali	So maw' le.	Tuchman	Tuo ca man'.
New Rochelle	New Ro shell'.	Pembina	Pen' be na.	Saco	Saw' co.	Sonora	So no' ra.	Tulare	Tuo lah' re.
New Zealand	New Ze' land.	Peninsulas-et.	Pen se e' vos' sit.	Sacramento	Sac ra men' to.	Sonata	So rah' tah.	Turin	Tu' rin.
Nigami	N'gab' me.	Peniscola	Pen sa co' la.	Sadowa	Sah' do wa.	Soud	Sor' el.	Turkeshin	Toor kes tan'.
Ningara	N'ing' a ra.	Peripa	Pe'p in'.	Saghalin	Sag ha leen'.	Soudan	Soo dan'.	Turkshin	Tns en' ne.
Nicaragua	Nie a rah' gwa.	Perambuco	Per nam hoo' co.	Sagunaw	Sag' u aw.	Spa	Spah.	Tyrol	Tir role'.
Nice	Nece.	Persia	Per' she a.	Saguay	Sag' u ay.	Speer	Sp' er.		
Nieobar	Nie o bar'.	Pesth	Pest.	Sahama	Sah' bah' ma.	Spheroid	Sphe' roid.	Utah	Win' tab.
Niemen	Ne' meu.	Philippi	Phie lip' pi.	Sahara	Sah' bah' ra.	Sporades	Spor' a deez.	Ulm	Ulm.
Niger	Ni' jer.	Philippine	Phie lip' pin.	Said	Sah eed'.	St. Anthony	Sent An' to ny.	Uster	Ul' ster.
Nineveh	Nin' e veh.	Picardy	Pie ar' de.	Saigon	Si gon'.	Staten Island	Sat'n I' land.	Unatila	Oo ma teel' ya.
Niobara	Ni o bar' ra.	Pictou	Pie too'.	Sahamara	Sai a man' ca.	St. Augustine	Sent Aw gus teen'.	Umbagog	Um' ba gog.
Nipissing	Nip' is sing.	Piedmont	Peed' mont.	Sahibury	Sawiz' her re.	St. Croix	Sent Croi'.	Upernivik	Oo' per nah vik.
Nippon	Nip pone'.	Pietermaritzburg	Peeter mar' itz burg.	Sahonica	Sai o ne' ca.	St. Elias	Sent El' as.	Upsal	Up' sal.
Ni-mes	Nemiz.	Piqua	Pik' wa.	Sahama	Sai mah' ma.	St. Etienne	Sent Et' e en'.	Ural	Oo' ral.
Norfolk	Nor' fok.	Pisa	Pe'e za.	Saharaug	Sai ar ang'.	St. Etienne	Sent Et' e en'.	Urbann	Ur' ba' na.
Norfolk	Nor' fok.	Piscataqua	Pis cat' a kwa.	Saharaug	Sai ar ang'.	St. Genevieve	Sent Jen e veev'.	Uruguay	Yoo ruo gway'.
Norwalk	Nor' wok.	Pitcairn	Pit' kairn'.	Saharaug	Sai ar ang'.	St. Helena	Sent He' le' na.	Utah	Yoo' tah.
Norwich	Nor' rij.	Plaquemine	Plak meen'.	Saharaug	Sai ar ang'.	St. Lawrence	Sent Law' rence.	Utica	Yoo' te ka.
Norwich	Nor' rij.	Plateau	Pla to'.	Saharaug	Sai ar ang'.	St. Louis	Sent Lou' is.	Utrecht	Yoo' trekt.
Nova Dame	No' r' Dahm'.	Platte	Plat.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.		
Nova Scotia	No' va Sco' she a.	Plymouth	Pim' nth.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Valladolid	Val la do leed'.
Nova Zembla	No' va Zem' bla.	Polities	Poi tee'z.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Vallejo	Val yn' ho.
Nogorod	Nog' go rod'.	Polynesia	Pol e ne' she a.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Valencia	Val len' she a.
Nyanza	N'yan' za.	Pompeii	Pom pi' e.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Valparaiso	Val pa ri' zo.
Nyassu	N'yahs' sa.	Pontchartrain	Pont shar train'.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Vancouver	Van coo' ver.
		Popayan	Po pa yan'.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Veneria	Ven e' she a.
		Popocatepetl	Pup o cah' te pet' l.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Venezuela	Ven e' zhe' la.
		Port au Prince	Port o Prince'.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Venice	Ven' ice.
		Poitte	P. rt.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Vera Cruz	Va' ra Krons.
		Porto Rico	Por' to Re' ko.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Vergennes	Ver jeun'.
		Porto Vecchio	Por' to Vek' ke o.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Vermilion	Ver mil' yon.
		Portugal	Por' tu gal.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Vernon	Ve' ro' na.
		Posen	Pos' zen.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
		Potomac	Po to' mac.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
		Potosi	To to' se.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
		Poughkeepsie	Po kip' se.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
		Poyang	Po yang'.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
		Prague	Prag.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
		Prairie du Chieu	Pra' re du Sheen'.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
		Presque Isle	Presk' Eel'.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
		Prussia	Prush' ya.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
		Puebla	Pwa' bla.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
		Puerto Principe	Pwa' re Preen' ce' pny.	Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.
				Saharaug	Sai ar ang'.	St. Pierre	Sent Pe' air'.	Versailles	Ver sal'z.

THE OLD AND NEW SYSTEMS OF RAILROAD TIME.

LXVI a.

THE OLD, OR LOCAL, STANDARD TIME.

1. **Solar Day.**—The interval between two successive crossings of the meridian by the *sun's centre* is called a *solar day*. **True Noon** at any place is the instant at which the sun's centre crosses the meridian of that place.

2. **Solar Days vary.**—If the axis of the earth were exactly *perpendicular* to the plane of its orbit, and if the orbit itself were a *circle*, all solar days would be of the same length. But the *inclined* axis and *elliptical* orbit of the earth cause a considerable variation in the length of the solar days. For this reason, a perfectly regulated clock or watch does not and cannot keep time with the sun. Such a clock shows the time that *would* be shown by the sun, if, as above supposed, the axis of the earth were perpendicular and its orbit circular. From one noon, or 12 o'clock, to another, as shown by such a timepiece, there are always and exactly $24 \times 60 \times 60$ seconds. The length of the day thus shown is the *exact average* length of all of the solar days of the year. This *average*, regular, unchangeable day is called the *mean solar day*, its noon is called *mean noon*, and the clock is said to keep *mean time*.

3. Owing to the position of the axis of the earth and its varying rate of motion in its elliptical orbit, *true* or solar noon sometimes lags behind *mean* noon, losing a little each day, until it is sometimes about 15 minutes *behind* the regular *mean* noon; at other times of the year it *gains* on the *mean* noon, little by little overtakes it, and at last gets about 15 minutes *ahead* of it. Thus, when the shadow is just on the noon or meridian mark on the 27th of October, a good watch will show 16 minutes *of* 12, and on the 10th of February, 15 minutes *past* 12. Only four times in a year will they agree.

4. **Mean Solar Time**, therefore, is the time shown from day to day by a good clock or watch, not that shown by the sun. This mean solar time has been in general use about a century. Before that, clocks had to be reset daily by the sun or *noon* mark.

5. **Local Time.**—Since the earth turns on its axis from west to east, the sun will come to the several meridians of our western cities *after* it has already passed those of the eastern ones. Since the whole revolution through 360 degrees is performed in 24 hours, a change of 15 degrees of longitude changes the time one hour. The same moment that it is 9 o'clock at Memphis (90° W.) it is 10 o'clock in Philadelphia (75° W.) and 8 o'clock in Denver (105° W.). The mean solar time shown at a given place is called *local time*, and has until recently been in universal use. All places having the same longitude must have the same local time.

Questions.—1. What is a solar day? True noon?—2. Why do solar days vary in length? What is a mean solar day? Mean noon? What kind of time does a good clock show?—3. How and how much do true noon and mean noon differ on the 27th of October? On the 10th of February? How often do they agree?—4. What is mean solar time? How long in use?—5. What difference in longitude produces an hour's difference in time? Give illustration. What is local time?

LXVI b.

THE RAILROAD OR HOUR-BELT SYSTEM, OR NEW STANDARD TIME.

1. **Dangers.**—Local time sufficed for all social purposes until within a few years. The introduction, multiplication, and interlacing of railroads soon led to difficulties and dangers arising from the use of local time. Safety and system require that every railroad must have a carefully constructed *time-table* to regulate the running of its trains. The time shown in the table was the local time of some important place on the road, usually one of its termini. The watch of every conductor and other employee on that road must show the local time of this terminus. This time necessarily differed from the local time of all other

places on that road. On long roads this difference was sometimes more than an hour. It thus happened that trains running through the same railroad centre from various termini had three or four, and sometimes even a greater number of different standards of time. These considerations led, by general agreement, to the adoption, in 1883, of the following system of time for the railroads of the United States and Canada. It is based upon the system of local time already explained.

2. **Standard Meridians.**—Meridians 75°, 90°, 105°, and 120° west of Greenwich are selected as *Standard Meridians*. They are 15° apart. The *local* time on any one of them, therefore, differs *exactly one hour* from the local time on either of the two others between which it is situated.

Hour-belts.—Each standard meridian is the middle line of a belt 15° wide, extending 7½° east and 7½° west of that standard meridian.

Belt Time.—Whatever may be the local time at a given instant on any standard meridian, that is taken to be the time at *every place in the belt* through which that meridian runs. That is, if it is 10 minutes of 5 local time on the standard meridian, every watch in every place in that belt should at the same instant show 10 minutes of 5.

Agreement.—Since the standard meridians are 15°, or exactly one hour apart, if it is 10 minutes of 5 in one belt it is 10 minutes of 4 all over the belt next west of it, and 10 minutes of 6 all over the belt next east of it. Therefore, whatever be the place of the *hour hands*, the *minute hands* of all watches in the United States and Canada will point to the same figure.

Terms used.—The time shown in the belt of the 75th meridian is known as Eastern Time; in that of the 90th meridian as Central Time; in that of the 105th meridian as Mountain Time; and in that of the 120th meridian as Pacific Time. The 60th meridian, proposed for Inter-colonial Time, is not yet in use.

3. **Adoption.**—Many great cities lie quite near some standard meridian. This promptly led to a wide adoption of the new standard time for *all* social purposes, the change at New York being less than 4 minutes, and at Philadelphia and St. Louis only about 1 minute. But places on or near the borders of the hour-belts required a change of about 30 minutes. Besides this, some of the long railroads have been obliged to push the time of a terminus lying in one belt far over into an adjoining belt. This has caused the lines separating the belts to be very irregular, and the belts to vary greatly in width, thus departing from the simplicity of the original plan. The standard time at Bismarck, Da., is 43 minutes earlier, and that at Erie, Pa., is 40 minutes later than the *local* time; so that the new standard noon at the former place sometimes comes 58 minutes *before*, and at the latter place 55 minutes *after*, the sun crosses the meridian. For these and other reasons, among which is the fact that many occupations are practically dependent upon the sun's light, many cities, and some large districts of country, have not yet adopted the new standard of time for general social purposes.

4. The **Astronomical, or Navigators', Day** is the mean solar day that begins at noon on the 1st standard meridian, that of Greenwich. A ship's chronometer shows Greenwich time, and thus enables a navigator to know his exact longitude on the ocean from day to day. This is the same as spreading the local time of Greenwich, not over an hour-belt, but *all over the world*.

5. The **Local Civil Day** is the mean solar day of 24 hours which begins at midnight. It is the day that is *dated* in the calendar. The *change of date* occurs first at an irregular line passing from pole to pole through the Pacific Ocean. (See map, page 120.)

6. In place of the present local civil day it is proposed to establish a **Universal Civil Day** which will begin at *mean noon* at Greenwich, and will extend by 24 hour-belts quite around the globe.

Questions.—1. What causes led to the hour-belt, or railroad system of time?—2. Which are its standard meridians? Describe the hour-belts. Belt time. In what do the belt times agree? What name for each?—3. Where is the system used? Why? Where not used? Why?—4. Describe the navigators' day.—5. The local civil day.—6. The universal civil day.

G E O G R A P H Y
OF
T H E P A C I F I C S T A T E S.

DESIGNED TO ACCOMPANY HARPER'S SCHOOL GEOGRAPHY.

WITH MAPS OF THE STATES AND ILLUSTRATIONS

PREPARED EXPRESSLY FOR THIS WORK.



QUESTIONS ON THE MAP.

California.—Bound California. What mountains in the eastern part of the state? In the western part? South of the Coast Range? Name the chief divisions of mountains of the Coast Range. Chief peaks of the Sierra Nevada. Other peaks in the state? What deserts wholly or partly in the state? What large double valley? What plateau in the north? (*Altitude*). Name the chief peaks. What group of islands south of the Coast Range? What bays north of San Francisco? What bays south?

What two rivers drain a large part of the state? Name the chief branches of each. What rivers enter the ocean north of San Francisco? South of San Francisco? What river forms part of the boundary? What lakes in the northeastern part of the state? In what region? What lakes on or near the eastern boundary? In the San Joaquin valley? What other lakes in the state?

Name the coast counties north of San Francisco. South of San Francisco. On the northern boundary. On the eastern boundary. On the southeastern. On the south ern. In the eastern part of the Sacramento valley. In the western part. In the San Joaquin valley. On San Francisco Bay and its branches.

Name the cities and towns near the northern boundary of the state. On the coast north of San Francisco. On or near the railroads terminating at San Pablo Bay. On

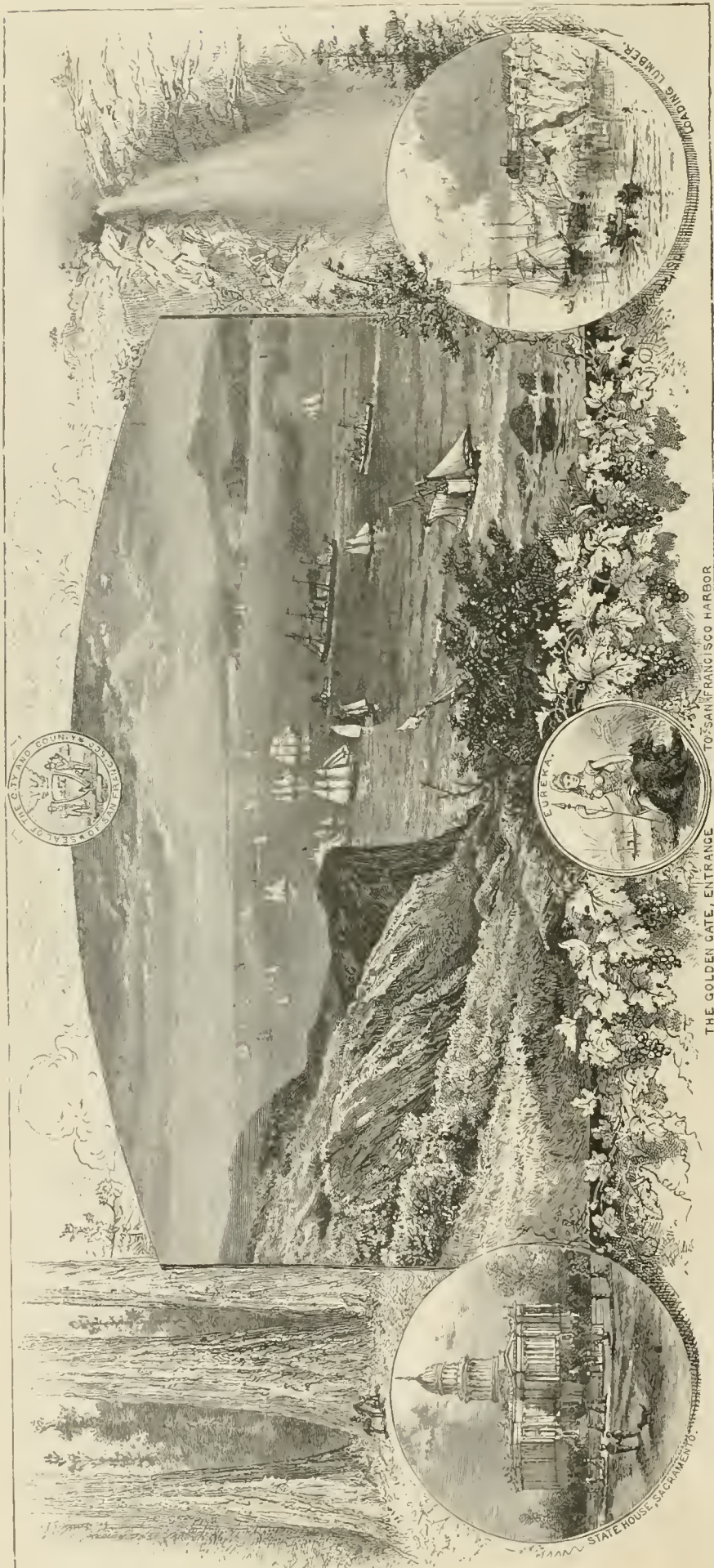


or near San Francisco Bay and its branches. On or near the coast south of San Francisco. East of Los Angeles Northeast of Tulare Lake. On the railroad between San Francisco and Monterey. Between Sacramento and Visalia. East of Stockton. East of Sacramento. Northwest of Sacramento. On or near Sacramento River. Or Feather River. Between Marysville and the Nevada line. What city is the capital?

Nevada.—Bound Nevada. Name the chief mountain ranges in the state. What deserts are wholly or partly in the state? Where is the highest plateau of the state? What rivers drain the northern slope of the plateau? On what river are they branches? (*Slope*). What river drains its southern slope? Name its chief branches. What rivers flow from the eastern slope of the Sierra Nevada? What river crosses the southeastern boundary? Forms a part of the southern boundary? Name its chief branch in the state. Name the chief lakes and sinks. What rivers flow from or into each of these lakes?

What counties on the northern boundary? On the eastern? The southwestern? The western? What other counties are there?

What cities and towns near the western angle of the state? What railroad crosses the state? (*Central Pacific*). What towns on or near this railroad? On its branches? North of the railroad? North of Elko? North of Nevada? South of Austin? Southwest of Belmont? What is the capital?



SPECIAL GEOGRAPHY OF CALIFORNIA.

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throughout its whole length. They are joined together near its extremities by spurs and cross chains, and enclose a broad and low oval valley nearly 400 miles long by 50 wide. This is the Great Valley of California.

The western system forms a broad and broken belt of high land, comprising numerous ranges which are generally parallel with the coast, and include many extensive and fertile valleys. These mountains are known under the general term of the Coast Range, but have many local names. Some of them are of considerably greater elevation than any of those east of the Mississippi. They give great boldness to the entire coast of the state, and are broken through by the ocean only at the Golden Gate.

South of the connecting point of the two systems, the western is further continued by the San Bernardino and San Jacinto Mountains to the Mexican border.

The eastern system is known as the Sierra Nevada,

CALIFORNIA.—DESCRIPTION.

[Area, 158,360 square miles. Population, 864,694.]

Situation.—California, the Empire State of the Pacific, extends from $32^{\circ} 28'$ to 42° north latitude, or from the parallel of Savannah to nearly that of Boston. Its southern end is between $114^{\circ} 30'$ and $117^{\circ} 6'$, and its northern between 120° and $124^{\circ} 15'$ west longitude.

It forms a long and somewhat narrow tract along the shore of the Pacific, its length being about 800 miles, and its breadth about 190 miles. In size it is the second state in the Union, and is larger than all of the New England States, New York, and Pennsylvania taken together.

Surface.—The surface is remarkably varied. Two nearly parallel systems of mountains, one near the eastern, the other covering the western border of the state, extend

and is one of the grandest mountain chains in the world. Its loftiest peaks reach an elevation of about 15,000 feet, and are the highest in the United States except one or two in Alaska. Its forest-clad western slope has its foot in the low valley almost at the level of the sea; and, with its long line of peaks covered with permanent snow, its gigantic spurs and numerous foot-hills rich with gold, its deep cañons, foaming torrents, and giant trees, presents landscapes famous throughout the world for variety, beauty, and sublimity. Its eastern slope, though bold and rugged, is much narrower and less imposing, as it terminates in the high and arid plateau of the Great Basin.

The highest peaks of the Sierra are towards its southern end.

Among these are Mount Whitney, 14,900 feet; Mount Tyndall, 14,386 feet; Mount Dana, 13,227 feet; Mount Lyell, 13,217 feet; Mount Brewer, 13,886 feet; and Castle Peak, 13,000 feet. The southern junction of the Sierra with the

Coast Range is marked by the snow-capped Mount San Bernardino, 11,600 feet, and the northern junction in the cross range by the lofty Mount Shasta, which has an elevation of 14,440 feet, and is covered with snow during most of the year for a vertical mile from its summit.

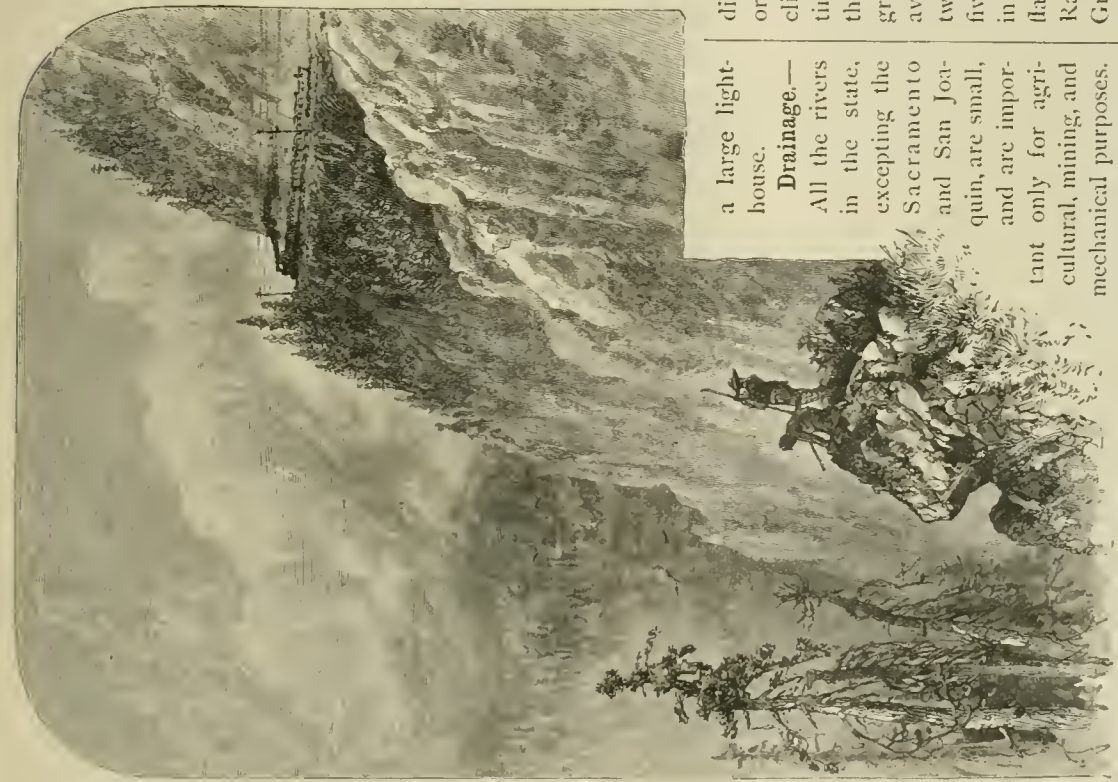
The Great Valley, or California Basin, is a remarkable double valley drained by Sacramento River, running from the north, and San Joaquin River, running from the south. These rivers carry the drainage of the numerous streams from the surrounding mountains. They meet in the centre of the basin, and their united waters, turning to the west, enter the ocean through the Golden Gate. The valley is very fertile and nearly level. At the junction of the rivers it is but thirty feet above the sea, and is only two hundred feet higher where they issue from the mountains.

The lowest portions of the valley, along both of the rivers and some of their branches, are subject to overflow, especially in the annual floods. These flooded lands are covered with various species of grasses and rushes, of which the most conspicuous is known as *tule* (tu'-le). The lands themselves are called *tule lands*. They comprise several millions of acres, and where reclaimed by ditching and embankment are among the most fertile lands in the state.

The northeastern part of the state is occupied by a high and cold plateau known as the Lake Region. It is a part of the Great Basin. It is exceedingly rugged, and many of its valleys are largely covered with a volcanic formation known as the Lava Beds. West of Mount Shasta is the high cold plateau of the Klamath, cut through by a deep and narrow valley.

East and southeast of the Sierra lies a vast arid region, covering nearly a fourth of the state. It contains the valleys of several small rivers whose waters, formed of the melted snows of the Sierra, are lost by evaporation. Among its noted localities are Mono Lake, called the Dead Sea of California, from its lifeless, bitter waters, which are saturated with salt and alkali; and the Valley of Death, a waterless region thirty miles long by ten miles wide, lying 377 feet below the level of the sea. Farther to the south it includes a part of the Colorado Desert, whose fierce heat and perpetual drought make it the Sahara of America. Three thousand square miles of this desert lie 70 feet below the sea-level.

Islands.—The coast, though bold and rugged, is remarkably free from islands. The chief are the Santa Barbara group, consisting of eight small rocky islands, hilly and barren. A few miles west of the Golden Gate are a little group of rocky islets called the Farallones. As their position makes them dangerous to ships, one of them has



CAPE HORN.

a large light-house.

Drainage.—

All the rivers in the state, excepting the Sacramento and San Joaquin, are small, and are important only for agricultural, mining, and mechanical purposes.

In these great departments of industry their value is incalculable, though in the last they are but little used.

Sacramento River is 465 miles long, and is navigable at all seasons for steamers drawing three feet of water to Sacramento, and for those drawing fifteen inches to Red Bluff, 310 miles from its mouth. The smaller steamers ascend Feather River, one of its branches, to Marysville. The tide flows to Sacramento, 50 miles. The large amount of earthy matter thrown into the numerous branches of Sacramento River by the mining operations on their banks has already raised the bed of the main stream several feet, and, besides causing it to flood many valuable farms and ruin them by deposits of sand and gravel, threatens to destroy completely the navigation of the river.

The San Joaquin is navigable to Stockton, 130 miles from San Francisco, by steamers drawing five feet, and, at the time of high-water, to Fresno, 150 miles farther, for smaller boats.

North of San Francisco the streams from the Coast Range are permanent; of those to the south of that city, all except the Salinas fail to reach the ocean during autumn droughts. The Salinas is navigable for small vessels for a few miles. The Colorado forms a part of the southeastern boundary of the state, but, though navigable to Calville, in Nevada, is as yet of little use to California. Its current is exceedingly rapid. The Colorado receives no tributary stream from the state.

Climate.—California has a remarkable variety of climates, all of them drier than those of the Atlantic Coast or the Mississippi Valley. The physical causes of this variety are to be found in the combined effects of the lofty Sierra, with its perpetual snow and glaciers, the low Colorado Desert, with its hot simoons and sand-storms, the broad treeless valley, the protecting wall of the coast mountains, the prevalent winds, and the ocean currents that sweep along the coasts.

In nearly every part of the state the year may be divided into two seasons, the wet and the dry. In the Colorado Desert and the neighboring parts of the state the climate is very hot, the thermometer at Fort Yuma sometimes showing 140°. The total annual rain fall is here less than four inches, being the least in the United States. It gradually increases in amount from south to north, the average annual fall being about ten inches at San Diego, twenty-two inches at San Francisco and Sacramento, thirty-five inches at Humboldt Bay, and a much greater amount in Oregon and Washington. On the foot-hills and on the flanks of the Sierra and the western slopes of the Coast Range it is much greater than on the coast or in the Great Valley. At Summit, where the Sierra is crossed by the railway, the mean annual fall is fifty-nine and one half inches. The influence of the high mountains (see page 26, § 5) is shown at Boca, only 13 miles east of Summit, where the fall is only fourteen and one half inches, and still more plainly at Reno, in Nevada, and only 31 miles distant, where the annual fall is less than five inches. Snow falls in the high Klamath Valley, and lies for weeks; on the upper parts of the flanks of the Sierra it is so deep that it does not disappear until late in the spring. At San Francisco it is rarely seen, and seldom lies upon the ground.

The amount of rain-fall is the most important element in the physical geography of the state or of any of its districts. The chief departments of industry, mining and agriculture and manufacture, are closely dependent upon it. In some years the fall is not much more than half the average, and an immense loss ensues from short crops in the plains and

in the coast regions. Sometimes the fall is nearly twice the average. In such years, though considerable damage is done in some places by floods, the total agricultural production of the state is greatly increased.

In summer the Return Trade-winds, descending from the high regions of the atmosphere, strike southern and central California as southwest winds. They here mix with the hot currents ascending from the broad area of deserts and plains, their capacity for absorbing and retaining moisture is greatly increased, and they can give no rain. California has, therefore, a very dry summer.

In winter and early spring the northern portions of the same broad belt of winds have moved so far to the south (see pages 16 and 17) as to strike the mountain chains on the western coast of Mexico. These great ranges change the direction of the winds, force them through the long Gulf of California and along the Pacific coast, and they pass over the state as southeast winds. Though these winds are warm and moist, the winter temperature of the Colorado and Mohave deserts is not low enough to cause rain.

Passing farther to the north, the winds slide up the western slopes of the Sierra and the Coast Range, and considerable rain falls. In the Tulare region, partly from the deposit of rain on the western slope of the Coast Range and partly from the less elevation and higher winter temperature, these winds give little or no rain, and the San Joaquin has no western tributaries. Still farther to the north the winds meet with a lower and lower temperature, and discharge an enormous amount of rain or snow. For these reasons there is more rain in the north than in the south; more on the mountain slopes and tops than on the plains and valleys; more on the western slopes than on the eastern; and but little or no rain in the deserts and sheltered valleys, where the air is warmer even in winter than the rain-bearing winds.

A land-wind, noted for its remarkable dryness, occasionally sweeps from the north to the south throughout the whole length of the Great Valley. Beginning as a polar wind, it passes over the Japan Stream in the north Pacific, and becomes warm and moist. When it strikes the mountainous coasts of Alaska, British Columbia, and Washington Territory, it loses most of its moisture. It then passes inland and southward along the Cascade Range, becoming warmer with the more southern latitude. Though its capacity for moisture rapidly increases, it finds none in its course. Entering the head of the Sacramento Valley, it soon becomes a wind of exceeding dryness, and probably terminates in the Colorado Desert. It occurs in the spring and fall, and usually lasts three days. In seasons of little rain-fall it produces disastrous effects by abstracting a large amount of moisture from the soil.

The whole coast is remarkable for its equable temperature. Though the daily variations of temperature are considerable, and sometimes quite sudden, yet, in the greater part of the coast region, the average temperature of the coldest month, January, is only 10° lower than that of the hottest month, July. The average temperature for the year at San Diego is 62° , at Humboldt Bay it is 52° , at San Francisco 56° , at Sacramento 58° .

The chief causes of the mild and rainy winters of California and Oregon are, first, the broad and warm waters of the Japan Stream, which flow southward at a short distance from the coast; second, the Return Trade-winds, which sweep landward over these waters and carry from them an immense amount of water which is deposited as rain in the valleys and on the foot-hills and mountain slopes, and as snow on the Sierras; and, third, the position of the great mountain systems of North America, which, bending round to the extremity of Alaska, protect the western coast from the cold polar winds, and turn them to sweep unresisted over the low Central Plain, from the Arctic Ocean to the Gulf of Mexico.

At San Francisco the average temperature for January is 49° , for July it is 57° , for the year 56° . During nearly the whole year, but especially in the summer months, a strong, cool ocean wind blows from the northwest through the broad gap in the Coast Range. It is most violent in the afternoon. It brings in from the sea cold, dense fogs, which in June, July, and August become heavy, wet mists. It is this wind and its fogs that cause the remarkably low and even summer temperature. South of Point Arguello, at the great bend in the coast, there are no fogs, and the climate resembles that of Italy.

The cause of the wind and the fog is twofold. Close along the coast flows a cold deep-sea current, the temperature of the sea-water at the Farallones never varying, summer or winter, more than a degree or two from 52° . In the east is the broad, low, and dry plain. In the southeast is the burning Colorado Desert. The ascending currents of hot air over these vast regions draw in a colder current of air from the ocean to supply their place. This second current, in passing over water far colder than itself, is cooled down. A large part of its invisible moisture is thus condensed into fog and mist, which are carried to the shore, where they are soon reabsorbed by the drier air.

In the Great Valley there are greater extremes of temperature. The Coast Range excludes the cold fogs, and the cold sea-winds are gradually tempered. In some places 110° to 112° are occasionally reached. The dry atmosphere prevents all injurious effects, and allows a rapid radiation, which, with the cooling winds from the snows of the neighboring Sierra, makes the nights cool even in midsummer. All these climates are healthy, and epidemic diseases are almost unknown.

Forests.—The trees of California are mostly evergreen conifers, many of the species being the largest and most beautiful in the world. Forests are found only in those parts of the state that have more than the average rain-fall. The western flanks of the Sierra, and those of the coast mountains north of 35° , have fine forests. The foot-hills and the coast valleys have beautiful groves of oaks. The entire southern part of the state, the eastern slopes of the Coast Range south of 35° , and the greater part of the Great Valley are destitute of forests.

The mammoth tree, the most gigantic of conifers, is among the wonders of the world. It is found only on the western slopes of the Sierra. In the Calaveras grove one of these was cut down. It was 96 feet in circumference, and over 300 feet high. Its concentric rings showed its age to be about 3000 years. In the same grove lies a fallen tree estimated to have been, when living, 110 feet in circumference and 435 feet high.

Another gigantic species, the redwood, resembles the mammoth tree, but forms vast forests. It is found only in the Coast Range, from Monterey Bay northward to Oregon. It is commercially the most important of all the trees of California, and furnishes an unlimited supply of valuable lumber. Some specimens are 15 feet in diameter and 300 feet high. In Santa Cruz County is one 275 feet high and 19 feet in diameter at six feet above the ground.

Next in size, quantity, and importance are the various species of pines, also the largest of their kind in the world. The sugar pine, a beautiful tree, has sometimes a diameter of 20 feet, but is of less height than the redwood.

Animals.—The wild animals are of many species. Among the mammals are the grizzly bear, black bear, cougar, wildcat, coyote, gray wolf, fox, badger, raccoon, opossum, pine-marten, weasel, squirrel, spermophile, gopher, deer, antelope, mountain-sheep, hare, otter, mink, sea-lion, sea-elephant. Among the birds are the vulture, eagle, hawk, owl, quail, grouse, duck, goose, and swan; among the fishes, the salmon, halibut, turbot, mackerel, rock-fish, and sturgeon.

Minerals.—Among the many wonders of California, there is nothing more extraordinary than the variety, abundance, and richness of her mineral treasures. Chief among these are those great deposits of gold which first made the state famous throughout the world. These deposits are diffused from the Oregon line to the Colorado Desert, but by far the greater part are found in the "foot-hills" drained by the numerous branches of the two great rivers. In lumps or nuggets, in scales, grains, and minute particles, this metal is found imbedded in the hard veins of quartz which seam the solid rock of the Sierra; in the vast beds of clay, gravel, and boulders which cover the lower parts of its western slope; in the banks, beds, and bars of the swift rivers and their tributaries; and even in the sand of the sea-shore.

Extracting gold from the quartz veins is known as quartz mining. Extracting it from the beds of sand, gravel, and boulders is called placer mining. Much the greater part of the gold is obtained by placer mining, the chief method of which is called hydraulic mining.

Hydraulic placer mining is one of the most extraordinary of human industries. The swift streams formed by the rains and melting snows of the Sierra have in the course of ages worn thousands of valleys and gorges into the sides of the mountains. Near many of these streams are vast beds of gravel resting upon the solid rock, and containing clay and boulders. They are sometimes hundreds of feet thick. The gold is found in these beds, most of it near the bottom. By ditches, flumes, and pipes, placed at a suitable height, the water of a stream is led sometimes for miles, and then, by means of a strong hose and pipe, is directed as a stream several inches in diameter, and under great pressure, upon the side of the gravel-bank. The bank is rapidly torn out down to the solid rock, and is washed away as a torrent of mud, pebbles, and boulders through a long sluiceway of timbers into the valley below. The

sluiceway has a false bottom and various other contrivances into which the particles of gold fall by their greater weight.

Many thousands of years ago the Sierra was more heavily capped with glaciers and snow masses than now, and its rivers flowed in channels different from those they now occupy. About the close of this period, by some tremendous effort of nature, the crust of the earth over a vast area in the vicinity of the Sierra Nevada, Cascade, and other mountains of western North America, was torn open in huge cracks or fissures, and enormous masses of liquid lava were poured out into the mountain-valleys and over the plains, gradually covering hundreds of thousands of square miles to the depth of hundreds, and sometimes of thousands, of feet. The heat thus evolved, or some other equally potent cause, rapidly melted the thick icy cap of the Sierra, and vast bodies of water rushed down the mountain slope, breaking, rolling, and grinding the solid rocks, and filling the river-beds to a great depth with boulders, pebbles, and gravel. Over all this the lava flood itself at last found its way. The river-courses were filled to the brim, and the beds of boulders and gravel were buried beneath the fiery flood. In the course of time the glaciers were renewed on a yet grander scale, and the streams flowing from them have cut out for themselves new channels far deeper than before, some of them crossing the old beds and revealing the successive steps of their formation.

These ancient river-beds, capped with earth and other substances to the depth of 40 to 350 feet, are found to be very rich in gold. By galleries cut into the hill-sides, of which the beds now form a part, and by shafts sunk through the earth, this treasure is reached, and the gold-bearing gravel is brought to the surface. This is known as "deep mining."

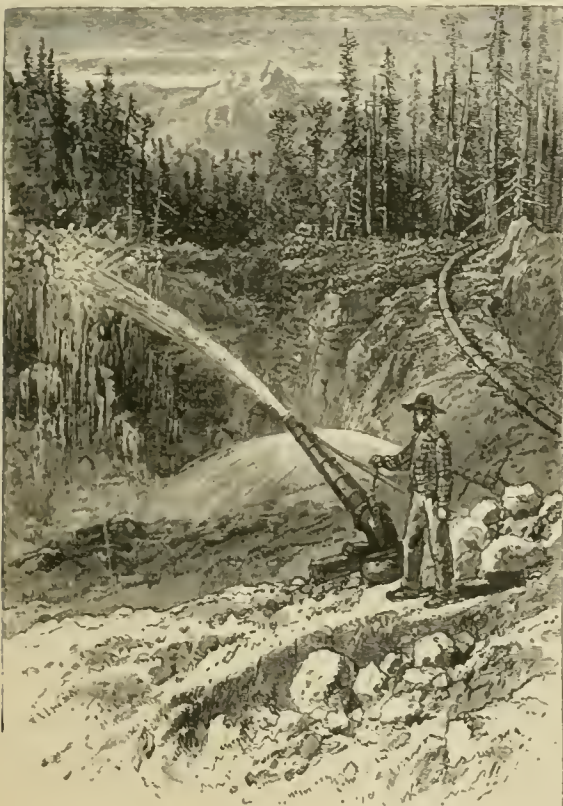
Next in importance among the metals of the state is quicksilver. The ore, which is called cinnabar, has been found in many places in a broad belt of country extending from Santa Barbara to Lake County. The most productive mines are all in the Coast Mountains. Silver is found in many places, but the only productive mines are east of the main divide of the Sierra. Copper ore is known to be abundant in various parts of the state. Coal is found in various places, but much of the coal used is imported.

Other metals and minerals are found in exhaustless quantity. Among them are sulphur, borax, soda, salt, petroleum, asphaltum, bitumen, iron ore, chrome, tin, plumbago, granite, and limestone, including hydraulic lime, and marbles in great variety.

Agriculture.—The agricultural capacity of California is its most important and remarkable characteristic. There are, at the least, from

twenty millions to twenty-three millions of acres, or about thirty-six thousand square miles, of tillable land, and quite as much more well suited for pasturage. But a small part of this is yet used.

In the variety of its agricultural products California has no equal in any other state of the Union; of the most important of these products, the quantity that can be furnished is limited only by the supply of labor and the facility in finding profitable markets.



HYDRAULIC MINING.

The crops are mainly dependent upon the distribution of the rain-fall. As the annual amount of rain is frequently much less or much greater than the average, in some years floods, in others droughts, chiefly the latter, have greatly reduced the total agricultural product. In large districts of the state, however, and especially in its southern and drier half, the water of the streams formed by the rains or the melting snows of the mountains is led by suitable ditches, and distributed over lands otherwise barren, but thus caused to be very productive. This system of cheap fertilization is being rapidly extended, and, together with the singular advantages furnished by the climate, will cause California to become, even more than now, the "garden of the world."

Wheat is the leading staple. The quantity produced is enormous. Much the greater part is shipped to foreign countries, chiefly to Great Britain and Ireland. It is so hard and dry, in consequence of the climate, that it is not injured in being thus carried twice across the torrid zone and half-way around the globe. Another practical effect of the absence of summer rains is, that the crop is never lost or injured by bad harvest-weather, and may remain for months piled in the field without damage. Next in importance among the grains is barley. Indian-corn is extensively raised in southern California, and the crop is rapidly increasing. It is mostly turned into bacon for export. Valuable crops of hops, tobacco, cotton, and the castor bean are produced. Nearly all the important fruits of the temperate and sub-tropical regions, and all kinds of garden vegetables, are, or can be, produced in great abundance. Of live-stock, sheep are generally the most profitable, and the state furnishes a large amount of wool of excellent quality.

Among the fruits are grapes, pears, plums, peaches, apricots, apples, strawberries, raspberries, figs, olives, oranges, lemons, walnuts, and almonds.

Principal Mineral and Agricultural Products.

Gold (1883).....	\$15,000,000	Hay (tons) (1880).....	1,135,180
Silver ".....	1,500,000	Wool pounds (1881).....	40,848,600
Wheat (bushels) (1884).....	57,420,188	Butter ".....	11,224,500
Barley ".....	23,472,240	Cheese ".....	5,803,600
Oats ".....	3,050,672	Honey " (1880).....	3,720,543
Indian Corn (bushels) (1884).....	5,288,316	Horses (1880).....	237,710
Pease and Beans (bushels) (1884).....	770,184	Mules and Asses (1880).....	28,364
Potatoes (bushels) (1880).....	4,550,565	Cattle (1880).....	664,307
Wine (gallons) (1883).....	8,000,000	Sheep ".....	4,152,349
Borax (pounds) ".....	4,688,200	Swine ".....	603,550

Manufactures.—California has great natural advantages for manufacturing, in the unlimited water-power, in the undeveloped coal mines, and in the abundance and variety of raw materials. These advantages are, as yet, but little employed. The greater part of the manufactured products, excepting lumber, flour, and liquors, are made in San Fran-



A GLACIER.

cisco. The wines are important among the manufactures of the United States, and rival the best made elsewhere: and the raisins, a rapidly increasing product, are noted for their excellence.

Principal Manufactured Products.

Agricultural Implements.....	\$586,378	High Explosives.....	\$1,765,868
Hats, other than Paper.....	2,102,500	Iron and Steel.....	780,000
Hoots and Shoes.....	3,649,551	Lead, Bar, Pipe, Sheet, and Shot.....	948,000
Bread and other Baking Products.....	2,416,398	Leather, Tanned, Curried, etc.....	6,193,573
Brick and Tile.....	516,261	Liquors, Distilled.....	637,298
Bridges.....	694,000	Liquors, Malt.....	3,862,431
Carriages and Wagons.....	1,163,618	Liquors, Vinous.....	622,087
Clothing, Men's and Women's.....	5,044,809	Lumber, Sawed and Planed.....	4,429,345
Coffee and Spices, Roasted and Ground.....	1,424,578	Printing and Publishing.....	3,148,978
Confectionery.....	721,797	Saddlery and Harness.....	1,170,865
Cooperage.....	721,024	Sash, Doors, and Blinds.....	1,541,266
Drugs and Chemicals.....	623,041	Ship-building.....	1,797,639
Flouring and Grist Mill Products.....	12,701,477	Slaughtering and Meat-packing.....	7,953,914
Foundry and Machine-shop Products.....	4,797,232	Soap and Candles.....	1,193,494
Fruits and Vegetables, Canned and Preserved.....	1,589,798	Sugar and Molasses, Refined.....	5,932,000
Furnishing Goods, Men's.....	744,245	Tin-ware, Copper-ware, and Sheet-iron-ware.....	1,622,632
Furniture.....	1,857,010	Tobacco, Cigars, and Cigarettes.....	3,947,353
Gunpowder.....	196,000	Woolen Goods.....	1,634,588

Commerce.—The commerce of California is varied and extensive. In proportion to its population, no other state imports so large an amount of foreign merchandise, or exports so large a share of its agricultural and mineral products. The chief imports are teas from Japan and China; coffee from Central America and the Spanish and Dutch East Indies; rice from China, Japan, and the Sandwich Islands; sugar from the Sandwich Islands, the East Indies, and Central America; coal from British Columbia and Australia; and general merchandise from Great Britain. In exchange for these, California exports the great staples of the western coast: wheat, wine, flour, lumber, gold, silver, quicksilver, mineral ores, wool, salmon, and canned goods. Traffic with the rest of the Union is carried on by land and by sea, and is a principal department of the general commerce of the state.

The commercial advantages of California are unequalled by those of any other part of the western coast. San Francisco and San Diego have the only large, deep, and safe harbors from Mazatlan in Mexico to Victoria in Vancouver, a distance of about 2000 miles. At Wilmington the United States government has constructed an extensive artificial harbor of great value. Numerous light-houses and fog-horns add to the safety of navigation.

Besides the ocean highways, the facilities for transportation include the great

bay of San Francisco and its tributary tide-waters; the two great navigable rivers of the state and their navigable branches; and a triple system of railways, of which the principal lines converge upon the chief commercial centre of the state. The first group of these roads extends northwardly from the northern arms of the great bay. The chief of these lines follow the Sacramento valley, and will soon unite the system of California with that of Oregon. The second group includes the Central Pacific Railroad, a great trans-continental line. It has many branches. This road passes from Oakland, through Benicia and Sacramento, and over the Sierra. It unites the transportation system of the state with the systems of the Mississippi basin and the Atlantic slope. A branch of this road extends up the San Joaquin valley to the vicinity of Visalia. Here it unites with the third group of railways, the Southern Pacific and its branches. This road begins at San Francisco, and passes through several important valleys to Yuma, on the Colorado, and to Deming, in New Mexico. Here it connects with other lines leading to St. Louis, Galveston, and New Orleans. Telegraph lines connect the state with Vancouver, Arizona, and the Atlantic ports, and thence through the ocean cables with the rest of the civilized world. The completion of the proposed ship-canal across the Central American isthmus will greatly enhance the commercial interests of California.

Principal Railroads.

NAMES.	BETWEEN	MILES.
Central Pacific.....	Oakland to Ogden, Utah.....	891
Divisions, Branches, etc.....	Oakland, <i>via</i> Benicia to Sacramento.....	86
Amador Branch.....	Galt to Ione.....	27
San José Branch.....	Niles to Tracy.....	42
California and Oregon.....	Sacramento to Redding.....	170
	South Vallejo to Calistoga.....	42
California Pacific.....	South Vallejo to Suisun.....	20
	Davisville to Knights Landing.....	19
Northern Railway.....	Woodland to Tehama.....	102
Stockton and Copperopolis.....	Stockton to Oakdale.....	24
Sacramento and Placerville.....	Sacramento to Shingle Springs.....	49
North Pacific Coast.....	San Rafael to Duncans Mills.....	80
San Francisco and North Pacific.....	San Rafael to Cloverdale.....	70
Southern Pacific.....	San Francisco to Yuma, Ariz.....	731
Divisions, Branches, etc.....	San Francisco to Soledad.....	143
	Castroville to Monterey.....	42
	Gilroy to Tres Pinos.....	100
	Los Angeles to Wilmington.....	22
	Los Angeles to Santa Ana.....	33
Santa Cruz Railroad.....	Pajaro to Santa Cruz.....	22
South Pacific Coast.....	Oakland to Santa Cruz.....	81
Los Angeles and Independence.....	Los Angeles and Santa Monica.....	18
Pacific Coast Railway.....	Port Harford and Los Alamos.....	64



STREET SCENE IN SAN FRANCISCO.

Political Organization.—The executive officers of the state are a Governor, Lieutenant-Governor, Secretary of State, Controller, Treasurer, Attorney-General, Surveyor-General, and Superintendent of Public Instruction. The official term of each is four years.

The legislative power of the state is vested in a Senate of forty members, whose terms are four years each, and an Assembly of eighty members, whose terms are two years each. The Legislature meets every second year.

The judicial power is vested in a Supreme Court, Superior Courts, Justice's Courts, and such inferior courts as the legislature may establish. All the executive officers, legislators, and judges are elected by the people.

California is represented in Congress by two Senators and six Representatives, and has therefore eight electoral votes.

The state comprises fifty-two counties, and the following chief cities and towns:

SAN FRANCISCO is the chief commercial centre and largest city of the western coast of America, and the fourth city of the United States in foreign commerce. It is situated on the western shore of the bay of the same name, in latitude $37^{\circ} 46'$ north, longitude $122^{\circ} 23'$ west. The city limits extend over the whole county, and include about forty-two square miles; the settled portion covers about nine square miles. The population is 233,959, including a little more than 75,000 Chinese.

San Francisco is built just within the Golden Gate, and at the northern end of one of the two small hilly peninsulas which separate the bay from the ocean. Telegraph Hill, 294 feet, a bold headland projecting into the harbor, Rincon Hill, 120 feet, and Russian Hill, 360 feet high, and lying farther inland, here partly enclose a sort of amphitheatre, their summits, their slopes, and especially the low plain between their foot and the water's edge, being covered with the more densely populated parts of the city. The business part of the city is built chiefly of brick, iron, and stone. Several of the streets are among the finest in the world, and are lined with splendid hotels, banks, stores, churches, theatres, and other public buildings.

The fine climate, the pleasant drives, the beautiful private dwellings and grounds, and the varied social advantages afforded by the numerous churches, schools, libraries, and places of amusement, combine to make San Francisco unusually attractive as a place of residence, and as a summer resort. The chief public pleasure-grounds are the Woodward Gardens and the Golden Gate Park, the latter containing 1043 acres.

Local travel is accommodated by eight lines of street railroads, and by steam ferries and railroads to the neighboring residential cities and towns. The chief of these are Oakland, Alameda, San Rafael, Berkeley, Vallejo, and Sausalito. Most of these are the termini of railroads. The Southern Pacific Railroad is the only one terminating within the city limits; the Central Pacific terminates at Oakland; the other railroads of the state, at San Pablo Bay, north of the city. A conduit nearly thirty miles long supplies the city with water from Pilarcitos Creek in the San Bruno Hills, San Mateo County.

Excepting lumber, flour, and liquors, much the greater part of the manufactures of the state are produced in San Francisco. Chief among these are woollens, carriages, boots, shoes, and leather, furniture, candles, soap, malt and distilled liquors, acids, wirework, castings of iron and brass, refined sugars, tobacco and cigars, silk goods, glass, sashes and doors, newspapers, books and other printed matter.

San Francisco is pre-eminently a commercial city. In proportion to its population it has a larger and more extensive trade than any other city in the world. Its export trade is about \$90,000,000 a year.

The foundation of its lasting prosperity is its noble bay, which furnishes the only first-class harbor from San Diego to Puget Sound, a distance of nearly 1200 miles. The entrance is through the Golden Gate, a deep strait, 35 feet at low tide, with bold shores, and a mile wide in its narrowest part. Through this gateway sailing vessels and steamers from every maritime nation on the globe are continually coming and going. To these are added a vast fleet of coasting vessels which visit every port of the eastern and northern Pacific, from Chili to the fishing-grounds of Alaska and the Okhotsk Sea, and assist to make the city the chief collecting and distributing depot for at least a third of North America.

Within the strait the broad bay extends its arms to the south, and to the north and east, where it receives the waters of the double system of rivers, which furnish cheap transportation to the chief mineral and agricultural districts of the state. In addition to this, the conformation of the continent, and the facilities which the city possesses for export and import, make it the natural focus of the chief part of the railway system of the Interior Basin and the Pacific slope of the United States. Angel, Goat, and Alcatraz islands lie in the bay and near the city, and have been reserved by the general government for defensive purposes. Fort Point has the heaviest fortifications on the Pacific coast. At Hunters Point, just south of the city, is a large dry-dock. It was hewn out of the solid rock, and is one of the best in the world.

The public-school system of San Francisco is well organized, and the schools are widely known for their efficiency.

In 1883 there were 41 primary, 15 grammar, and 2 high schools, and 4 evening schools. The number of pupils enrolled was 40,722; the average daily attendance 30,827, taught by 687 teachers. Among other educational and literary institutions are many corporate and private schools of a high order.

SACRAMENTO, in Sacramento County, on the Central Pacific Railroad, is the capital of the state. It is built on the east bank of the Sacramento and the south bank of the American, which here unites with the main stream. The site, which is part of an extensive and fertile plain, has been raised about ten feet above its natural level in order to protect the city from devastating floods. Population 21,420.

Sacramento River is navigable to this point for large steamboats and sailing vessels, and for steamers of light draught to Red Bluff, 240 miles farther up. The city is further important as the meeting-place of the Central Pacific, California Pacific, Sacramento and Placerville, and California and Oregon railroads, which, with the river and the numerous radiating stage routes, make it a great centre of travel and trade for both the agricultural and the mining regions.

The business interests are large and varied, the sales of manufactured products and other merchandise amounting, in some years, to more than \$35,000,000. Among the chief manufactures and manufacturing establishments are agricultural implements, carriages, furniture, woodenware, pottery, wine, brandy, and beet sugar; iron works, smelting and refining works, and planing, flouring, and woollen mills. The car works and chief shops of the Central Pacific Railroad are located here.

Sacramento is one of the pleasantest of cities. Its climate is dry and semi-tropical. Its streets are planted with fine shade trees, and its many tasteful residences are surrounded by beautiful gardens in which flowers bloom all the year.

The capitol is one of the grandest and most beautiful public buildings in the United States. The public schools include a high-school, two grammar-schools, several intermediate, and a large number of primary schools. Among other educational and literary institutions are the Normal Institute, the Business College, St. Patrick's College, and the State and Association libraries.

CINCO, in Butte County, is on the California and Oregon Railroad, and on Chico Creek, six miles from Sacramento River. It has valuable water-power. The lumber trade is the leading interest. From the mills in the heavily timbered region of the Sierra, a vast quantity of lumber is floated through a "V" flume, 35 miles long and terminating in the vicinity of the town. Numerous stage lines radiate from this point. Population, 3380.

EUREKA, a city of Humboldt County, is on Humboldt Bay. It is the most important town on the north coast of California. It occupies an elevated site two miles from the beach, and overlooks the bay and the ocean. It has a large export trade in lumber and agricultural products, and is the distributing point for a large amount of general merchandise. Population, 2639.

GRASS VALLEY, in Nevada County, 2500 feet above the sea-level, is on the Nevada County Railroad, thirteen miles northwest of the Central Pacific Railroad. It is the chief quartz-mining town of California, and contains some of the richest mines in the state. Population, 4500.

LOS ANGELES, in Los Angeles County, on Los Angeles River, is one of the most important cities of the state. It is built on a gentle slope at the base of the Santa Monica Mountains. Five lines of railroad have here a common centre. One of these, the Southern Pacific, connects the city with the general railway system of the state and of the Union. The lines to the neighboring ports, Santa Monica and Wilmington, give ready access to the ocean. The facilities for transportation by land and sea, together with the extraordinary fertility of the neighboring country, and its salubrious climate, make the city a favorite winter resort and the chief centre of trade for southern California. The excellent artificial harbor at Wilmington and the long wharf at Santa Monica accommodate the coastwise traffic and travel.

The city is beautiful with gardens and orchards, which contain a remarkable variety of tropical and semi-tropical fruits and trees. Among them are hundreds of thousands of orange, lemon, lime, and fig trees, and millions of grapevines. Besides these are the pomegranate, the banana, the palm, the cypress, the live-oak, and many others. Among the exports are wine, brandy, fresh and dried fruits, wheat, barley, corn, bacon, honey, and wool. The public buildings, and the educational and religious institutions, are among the best in the state. Population 11,183.

MARYSVILLE, a city in Yuba County, is at the junction of Yuba and Feather rivers. The latter stream is at all times navigable to this point by light-draught steamers. The surrounding country is a low and level plain, and the site of the city has been raised several feet for protection against floods. Marysville is one of the largest towns north of Sacramento River, and is the centre of a large trade with the mining towns of the Sierra, and with the agricultural district with which it is surrounded. It has a considerable manufacturing interest, and ships a large quantity of lumber. Population, 4321.

NAPA, in Napa County, is on the Napa Valley branch of the California Pacific Railroad, and at the head of tide-water on Napa River, here navigable for vessels of light draught. The town is the business centre of a great agricultural valley, which is also rich in mines of cinnabar. Wine and brandy are manufactured. Hot springs, sulphur springs, and a fossil forest of large petrified trees are found in the county. Population, 3731.

NEVADA CITY, in Nevada County, is 2350 feet above the sea-level, fifteen miles

from the Central Pacific Railroad, and at the terminus of the Nevada County Railroad. It is in one of the richest gold fields of the state. Quartz and hydraulic mining are extensively carried on here. Population, 1022.

OAKLAND, in Alameda County, is the chief railway terminus of the state. It is a rapidly growing city, and is already the second in population on the Pacific coast. It is noted for its elegant private residences, its parks and gardens, its profusion of majestic live-oaks, its fine drives, and the picturesque beauty and variety of the scenery by which it is surrounded. It has a good harbor and other great commercial advantages. Two piers, nearly three miles long, extend the Central Pacific Railroad to the deep water of the bay, and furnish facilities for loading and unloading the largest ocean steamers. Steam ferries connect with San Francisco. There are six street railroads. Manufacturing is a leading interest, the products being of great variety and of large total value. The educational and literary institutions of Oakland, and its suburban villages, are among the greatest of its many attractions, and include a large number of public and private schools, and the University of California at Berkeley, which is the most important on the Pacific coast. Population, 34,555.

Petaluma, in Sonoma County, on the San Francisco and North Pacific Railroad, at the head of navigation on Petaluma Creek. It is an important shipping point for wheat, barley, dairy products, lumber, and oats. Population, 3326.

SAN BERNARDINO, in San Bernardino County, occupies a beautiful position, on a high and gently sloping plain, at the base of the lofty San Bernardino Mountains. It is four miles from the Southern Pacific Railroad. Its streets have irrigating ditches, fed with the melting snows of the neighboring hills. It is surrounded by extensive gardens, vineyards, and orchards, and is the centre of numerous routes leading from the mining regions. Besides the mineral products, it exports wine, wool, and barley. Population 1673.

SAN DIEGO, in San Diego County, is built on a beautiful and commanding site on the bay of the same name, sixteen miles north of the national boundary. In the vicinity there are numerous important gold-mines, and an abundance of other metals. The harbor is the best on the coast after that of San Francisco. The spacious bay, over twenty miles in length, is entered by a deep strait, about one third of a mile wide. Whaling is carried on just outside the entrance to the bay, and there are other important fisheries in the vicinity. San Diego is on the California Southern Railroad, and expects to become the ocean terminus for a southern trans-continental railroad. Whale-oil, hides, and wool are the chief exports. Population, 2637.

SAN JOSÉ, in Santa Clara County, is situated at the junction of the Southern Pacific Railroad with the San José branch of the Central Pacific. Coyote and Guadalupe rivers flow through the town. It is a place of considerable trade, and has a variety of manufactures. The Alameda is a beautiful avenue, three miles long, lined with fine shade trees, and reaching to Santa Clara. San José has an unusual number of large and handsome public buildings. Among other institutions are the State Normal School, College of Notre Dame, San José Institute, and Business College. Population, 12,567.

SANTA BARBARA, in Santa Barbara County, is noted as a health resort and for its export of wool. The town fronts on the ocean, and is surrounded by a beautiful undulating country. In the vicinity are important deposits of gold, iron, quicksilver, and petroleum. Population, 3460.

SANTA CRUZ, in Santa Cruz County, is situated on Monterey Bay, and on a branch of the Southern Pacific Railroad. Santa Cruz is a fashionable watering-place, and has fine beach-bathing and drives. The vicinity is mountainous, well timbered, and adapted to grazing. Population, 3898.

SANTA ROSA, in Sonoma County, is on the San Francisco and North Pacific Railroad. Fruits and grain are produced in unusual variety and quantity, and, with butter, cheese, wine, and brandy, form the chief staples of an extensive trade. The neighboring mines produce gold, copper, and quicksilver. The town is the site of two colleges. Population, 3616.

Stockton, in San Joaquin County, on the Central Pacific Railroad, is on Stockton Slough, a short and navigable branch of San Joaquin River. It is the head of navigation for large vessels in the San Joaquin valley. The Stockton and Copperopolis Railroad here joins the Central Pacific. Abundant water for irrigation and other purposes is supplied by numerous wells and wind-mills, and by a fine artesian well. Besides a large trade in wheat, wool, and other agricultural products, the city has extensive manufacturing interests. Population, 10,282.

TRUCKEE, in Nevada County, is on the east slope of the Sierra Nevada, and on the Central Pacific Railroad. The surrounding country is grand, romantic, and heavily timbered. Donner Lake and Lake Tahoe, noted summer resorts, are a few miles distant. Truckee River flows through the town and furnishes water-power by which an immense amount of lumber is furnished for the trade with Nevada. Sashes, doors, and other wood-work are manufactured, and large quantities of ice shipped. Population, 1147.

Vallejo, a city of Solano County, is on Vallejo Bay. The bay is a fine harbor, deep enough for the largest vessels. Vallejo is the southern terminus of the

California Pacific Railroad. A large amount of grain is here shipped to Europe. Immediately across the bay and half a mile distant is Mare Island, the site of the United States Navy-yard, the naval depot of the Pacific coast. It is connected with Vallejo by a steam ferry. Population about 5987.

WOODLAND, in Yolo County, on the California Pacific Railroad. In summer it is in the midst of a vast wheat-field, and has an extensive trade in that grain. Wine, brandy, and malt liquors are manufactured. Population, 2257.

Among the other principal cities and towns are—

Benicia—in Solano County, on the northern side of the Strait of Carquinez, at the head of navigation for large vessels. Government depot for arms and supplies for the Pacific coast. Cement, flour, leather, gloves. Population, 1794.

Colusa—in Colusa County, on the Sacramento. Large trade with farmers, graziers, and quicksilver miners. County noted for wool, wheat, barley, and pork. Population, 1779.

Folsom—in Sacramento County, on American River, at the base of the Sierra. Extensive granite quarries. Population, 1000.

Gilroy—in Santa Clara County, on the Southern Pacific Railroad. Agricultural and dairy region. Centre of tobacco cultivation. Manufactures tobacco and cigars. Population, 1621.

Headsburg—in Sonoma County, in Russian River valley, which is noted for its yield of wheat and vegetables. Trade with neighboring quicksilver mines. Population, 1133.

Hollister—in San Benito County. On a branch of the Southern Pacific Railroad. Has a large trade with the New Idria Quicksilver and other mines. Population, 1044.

Merced—in Merced County, in the San Joaquin valley, on a branch of the Central Pacific Railroad. Shipping point for an immense amount of wheat, barley, cotton, and tobacco. District has a great number of irrigating ditches. San Joaquin and Kings River Canal, 100 miles long, 68 feet wide, and 6 feet deep. Population, 1446.

Modesto—in Stanislaus County, on San Joaquin branch of Central Pacific Railroad. Important shipping and trading depot for a large agricultural region. Population, 1693.

Monterey—a town of Monterey County, on bay of same name, and on Monterey and Salinas Valley Railroad. The capital of California under Spanish and Mexican rule. Whale fishery. Shipments of wheat. Population, 1396.

Oroville—in Butte County, on Feather River and the Northern California Railroad. Trade in live-stock, wool, peanuts, raisins, wine, and brandy. Population, 1743.

Placerville—in El Dorado County. In mining district, twelve miles from terminus of Sacramento and Placerville Railroad. Fruits, wine, and brandy. Population, 1951.

Red Bluff—in Tehama County, on west bank of Sacramento River. Large wood, lumber, and flour trade. Population, 2106.

Redwood City—in San Mateo County, on Redwood Creek and a branch railroad. Lumber, cordwood, tan-bark, and grain. Population, 1383.

San Buenaventura—in Ventura County, at mouth of San Buenaventura River. Ships barley and corn. Also wool, wheat, fruit, and petroleum. Population, 1370.

San Luis Obispo—in San Luis Obispo County, nine miles from landing. Centre of trade of a fertile valley. Ships cattle, hides, wool, and dairy products. Population, 2243.

San Rafael—in Marin County, near the northern end of the Bay of San Francisco, fifteen miles north of the metropolis. A favorite place of summer residence and a prominent pleasure resort. Population, 2300.

Santa Clara—in Santa Clara County, three miles west of San José. Site of College of Santa Clara and of the University of the Pacific. Population, 2416.

Sonoma—in Tuolumne County, on Woods Creek. Finely located mountain town. Chiefly agricultural. Population, 1492.

St. Helena—in Napa County. Agricultural and mineral region. On Napa Valley Railroad. Wine and fruit. Population, 1339.

Visalia—in Tulare County, on Mill Creek. On a spur of the San Joaquin branch of Central Pacific Railroad. Extensive trade in grain, cattle, and wool. Country largely irrigated and very productive. Population, 1412.

Watsonville—in Santa Cruz County, on Pajaro River, three miles from Watsons Landing. Centre of trade for Pajaro valley. Ships a large amount of produce. Population, 1799.

Wilmington—in Los Angeles County. Port and harbor of refuge, on navigable arm of San Pedro Bay. United States government has constructed a breakwater, about a mile and a half long. Shipping point for Los Angeles. Population, 911.

Yreka—in Siskiyou County, on Yreka Creek. In Shasta valley, 2450 feet above the sea. Most northern large inland town of California. On the main road between California and Oregon. Extensive gold and agricultural region. Population, 1659.

Education.—Public education is liberally provided for. The public schools are open to all between six and twenty-one years of age, and are under the general control of the State Board of Education, which consists of the State Superintendent of Public Instruction, the Governor, and the principal of the State Normal School.

In 1883 there were nearly 4000 teachers and 174,611 enrolled pupils. The system embraces primary, grammar, and high schools, the State Normal School, and the University of California.

History.—For several centuries after the voyage of Columbus (1492) California remained an unknown land. In 1542, Cabrillo, a Spanish officer, made the first northward voyage along the coast as far as the 44th degree of latitude. Upon this voyage the claims of Spain to California were founded. Thirty-seven years afterwards (1579), Sir Francis Drake, a famous English navigator, visited the coast and entered a bay, generally supposed to be that now bearing his name.

It was not until 1769, 227 years after the voyage of Cabrillo, that the Spaniards began to explore and occupy the region whose coast he had seen. England had recently added nearly all of what we now call British America to her extensive American colonies, had conquered and occupied a large part of Hindostan, had opened her China trade, and had sent Captain Cook to explore the hitherto unknown islands and shores of the Pacific. Among the bold and far-seeing plans of her merchants and statesmen was the occupation of the Pacific coasts of Australia and North America.

It was the knowledge of these things that at last aroused the activity

of Spain. As the simplest and most expeditious plan for securing possession of the country, it was resolved to establish a line of mission stations among the Indians of the coast, with the further purpose of their conversion to the Christian faith. The establishment and control of these missions was confided to the monks of a Mexican convent of the Order of St. Francis, by whom the first settlement within the limits of the state was formally established at San Diego on the 11th of July, 1769. Other similar establishments soon followed, and the whole coast was explored. On the 3d of June, 1770, Monterey was founded, and on the 7th of November, of the same year, Crespi sailed through the strait now called the Golden Gate, discovered the magnificent bay, and gave it the name it still bears. By degrees a great part of the Indian tribes were assembled about the missions and became partly civilized, and the grain, fruits, and domestic animals of Europe were introduced. For the better control of the Indians, immigration was discouraged, no one being allowed to own any part of the soil. The mission rule continued about sixty-four years.

In 1822, after a long contest, Mexico established her independence of Spain. In 1833, the loyalty of the monks of California to the republic being distrusted, the control of the country was taken from them, a Mexican governor was appointed, and California was thrown open to immigration. Numerous large tracts of land were granted to individuals, to become, in after-years, the cause of endless litigation. Monterey was made the capital. The missions rapidly declined, and the greater part of the Indian converts dispersed.

In the course of a few years the frequent civil wars in Mexico, and the consequent weakness and instability of the distant central government, made it obvious that, sooner or later, California would probably become a possession of France, England, or the United States. Between 1843 and 1846 a large number of immigrants entered the country, most of them Americans from Oregon and the Mississippi valley. The revolt of Texas, and its subsequent admission into the Union, led to the Mexican war. In June, 1846, the commander of the American fleet lying at Mazatlan, on the west coast of Mexico, received information of the first battle on the Rio Grande. He promptly set sail for Monterey, and, on the 7th of July, took formal possession of that place and of California. On the next day the port of Yerba Buena was occupied, and became at once the chief military and naval station of the United States on the west coast. In January, 1847, its name was changed to San Francisco. By the treaty of February 2, 1848, a vast region, extending from Texas to the Pacific, and including California, was formally ceded by Mexico to the United States.

On the 19th of January, 1848, Marshall found gold in the race of Sutter's mill at Coloma. This led to further search, and the richness and vast area of the deposits of that precious metal were soon made apparent. In a few weeks the news had spread over the Pacific coast, and, in a few months, over the whole civilized world. An unparalleled excitement and migration soon followed. From Asia, Australia, Europe, and the United States, thousands and tens of thousands hurried to the land of gold. In May, 1849, at least 20,000 men marched from Missouri River, and for several subsequent years the perilous route across the Plains was a principal road to California.

The position of San Francisco at the ocean doorway to this vast treasury at once raised that place to great importance. The harbor was crowded with ships from every maritime nation, and a great city, at first of tents and sheds, and afterwards of more substantial materials, sprang up as if by magic. A little later, and from the Atlantic ports came great fleets of sailing vessels of a size and speed never before known, crowded with eager gold-hunters, and freighted with everything that might find a market among a people made recklessly extravagant by the sudden acquisition of apparently exhaustless wealth. Shorter routes to the golden land were soon found. Lines of steamers ran to the narrow isthmus of Panama from the Atlantic ports on one side and from San Francisco on the other. On the 23d of January, 1854, the

Panama Railroad was completed, and thenceforth communication with the Atlantic shores was relatively easy.

Meanwhile the most mixed multitude ever assembled moved forward with unexampled rapidity to permanent political organization. On the 1st of September, 1849, a constitutional convention assembled at Monterey. Its work was adopted by the people, and, on the 9th of September, 1850, California was admitted as a state of the Union.

Social perils, unavoidable in such a community, soon developed themselves. In December, 1849, and again in May and June, 1851, fires, supposed to be of incendiary origin, swept away large parts of the city and of its wealth. Crimes of violence were of daily and open occurrence. With the crowds of industrious miners there had come a horde of idle, vicious men, many of them the banished outlaws of other lands. Their numbers gave them local political power. Through their blighting influence justice was perverted and corrupted, and the very foundations of social order were in peril. In 1856 these evils had become intolerable, and the better elements of society rapidly organized for its preservation. A large body of the citizens formed themselves into an armed and disciplined force, and an executive committee was appointed. Many of the most notorious criminals were arrested; others fled the state. No one was punished without full and fair trial. Four were executed and many others were banished. When its work was done, the organization quietly disbanded, and affairs peacefully resumed their natural course.

The annual production of gold, which had risen to about \$65,000,000 in 1853, soon after began to decline. The most accessible and easily wrought placers were exhausted, and discoveries of gold and silver in adjacent or distant territories and in Australia called away a large part of the mining population. In 1859 the production had fallen to about \$50,000,000; in 1861 to \$40,000,000; and in 1880 to \$17,500,000.

In the meanwhile immigration continued, and steadily increasing numbers came with their families to make California their permanent home. Various new industries in mining and manufactures were developed. The extraordinary agricultural capacity of the state was recognized, and it became evident that the grain, wine, fruits, lumber, and wool of the state were a greater and more lasting source of prosperity than the gold had been. In 1867 the value of the merchandise exported already equalled the entire gold product of the state. The discovery of the rich silver mines of Nevada added greatly to the prosperity of California, and especially of its chief port, and it was still further increased by an event which marks a new era in the history of the state and of the country. This was the completion of the first great transcontinental railway, in September, 1869, by which the whole Mississippi valley and the Atlantic seaboard were brought within a few days' easy reach of San Francisco. A still more rapid increase of the immigration followed, and has already largely affected the development of the resources of the state. Other events of moment have subsequently occurred; among them are the great extension of the local railroad system, the rapid increase of irrigation and hydraulic mining, and the adoption, in 1879, of a new state constitution, which went into effect January 1, 1880. The immigration of very large numbers of Chinese has given rise to new social and industrial problems, the solution of which is yet in the future. During the Civil War California remained faithful to the Union, and her treasures were generously poured forth for the national cause, and in aid of those whose sufferings in the field and the hospital justly demanded her sympathies and her assistance.

Questions.—Describe the situation of California. Its mountain surface. Its double valley. The Lake Region. Klamath Plateau. The islands. The drainage. The climate. The forests. The animals. Minerals and mining. Agriculture. The leading staples. Manufactures. The leading products. Commerce. Its staples. Coast advantages. Transportation. Political organization. Describe San Francisco. Sacramento. Other important places. What is said of education? Give an outline of the history of California.

SPECIAL GEOGRAPHY OF OREGON.

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QUESTIONS ON THE MAP.

What territory north of Oregon? What river forms part of the northern boundary? What river a part of the eastern boundary? What territory on the east? What two states on the south? What forms the western boundary? Which is the chief mountain range of the state? Into what two parts does it divide the state? (*Ans.* East Oregon and West Oregon.) Name its chief peaks.

What four ranges in the southern part of West Oregon? What ranges near the western border? Name the chief ranges of East Oregon. Name the chief capes on the coast.

What branch of the Columbia drains a large part of West Oregon? Name the chief rivers flowing into the Pacific. Name the principal branches of Columbia River in East Oregon. Of the Snake. What river drains the southwestern corner of East Oregon? What lakes in the same region? What other lakes in Oregon?

Name the counties of East Oregon. What counties of West Oregon border on the ocean? On Columbia River? On East Oregon? On California? What counties in the eastern part of the Willamette valley? In the western?

What city is the capital of Oregon? What cities and towns in the eastern part of Willamette valley are north of Salem? South of Salem? What cities and towns in the western part of that valley? In Rogue River valley? In Umpqua valley? On the ocean? On the Columbia? In Umatilla valley? In other parts of East Oregon?

DESCRIPTION.

[Area, 96,030 square miles. Population 174,768.]

Situation.—Oregon is situated between the parallels of 42° and $46^{\circ} 20'$ north latitude, and the meridians of $116^{\circ} 30'$ and $124^{\circ} 35'$ west longitude. In shape it is nearly a rectangle. Its average length from east to west is nearly 350 miles, and its breadth from north to south about 275 miles.

Surface.—The Cascade Mountains cross the state in a line nearly parallel to the Pacific coast, and at an average distance of about 130 miles from it. Their highest point, Mount Hood, has an elevation of 11,225 feet. Many of their peaks are extinct volcanoes, and have their summits covered with permanent snow. This lofty range divides

the state into two distinct regions, known as West Oregon and East Oregon. They differ greatly in extent, surface, soil, and climate.

West Oregon, the smaller division, lies between the Cascade Range and the Pacific, and includes about one third of the area of the state. It has a bold, almost unbroken coast, about 300 miles long. Parallel with the coast are the Coast Mountains, a series of rugged ranges having an

average breadth about 40 miles. Umpqua valley and Rogue River valley are smaller. Their surfaces are broken by rolling hills.

East Oregon is an elevated plateau. The greater part of the surface consists of undulating table-lands into which the many rivers that drain them have cut deep cañons, some of which have perpendicular walls from 1000 to 2000 feet high. The Blue Mountains cover a large area in the eastern part of this division of the state.

A considerable part of East Oregon lies in the Great Basin. Much of this portion of the state is desert. It is covered in the east with sand and the sage brush, and in the west with volcanic ashes and pumice. In many places are extensive terraces of lava, sometimes more than 1000 feet high, and broken with deep chasms.

The elevated region, containing the sources of the Klamath, is known as the Lake Country. Twenty or more lakes, of considerable size, are here scattered over a wide area. Around many of these are extensive marshes capable of drainage and cultivation. The rest of the region is barren.

Drainage.—The greater part of Oregon is drained by Columbia River and its branches. The Columbia, or Oregon, next after the Yukon, is the largest river of the Pacific coast of America. So great is the flood which it pours into the ocean, especially in the spring, that its waters are drinkable, when dipped from the surface, five miles at sea. This noble stream forms the northern boundary of the state for about 350 miles. It has cut its way across the lofty Cascade Range, dividing it nearly to the base of the mountains, the small remnant of the obstruction forming rapids at Cascades and the Dalles. The name of the mountains is derived from these cascades, and that of the state itself from one of the names of the river. The Umpqua and the Rogue are the chief rivers of the southwestern part of the state, and flow directly into the Pacific. The greater part of the Lake Country is drained by the numerous branches of the Klamath. From that part of the state which lies in the Great Basin no water reaches the sea.

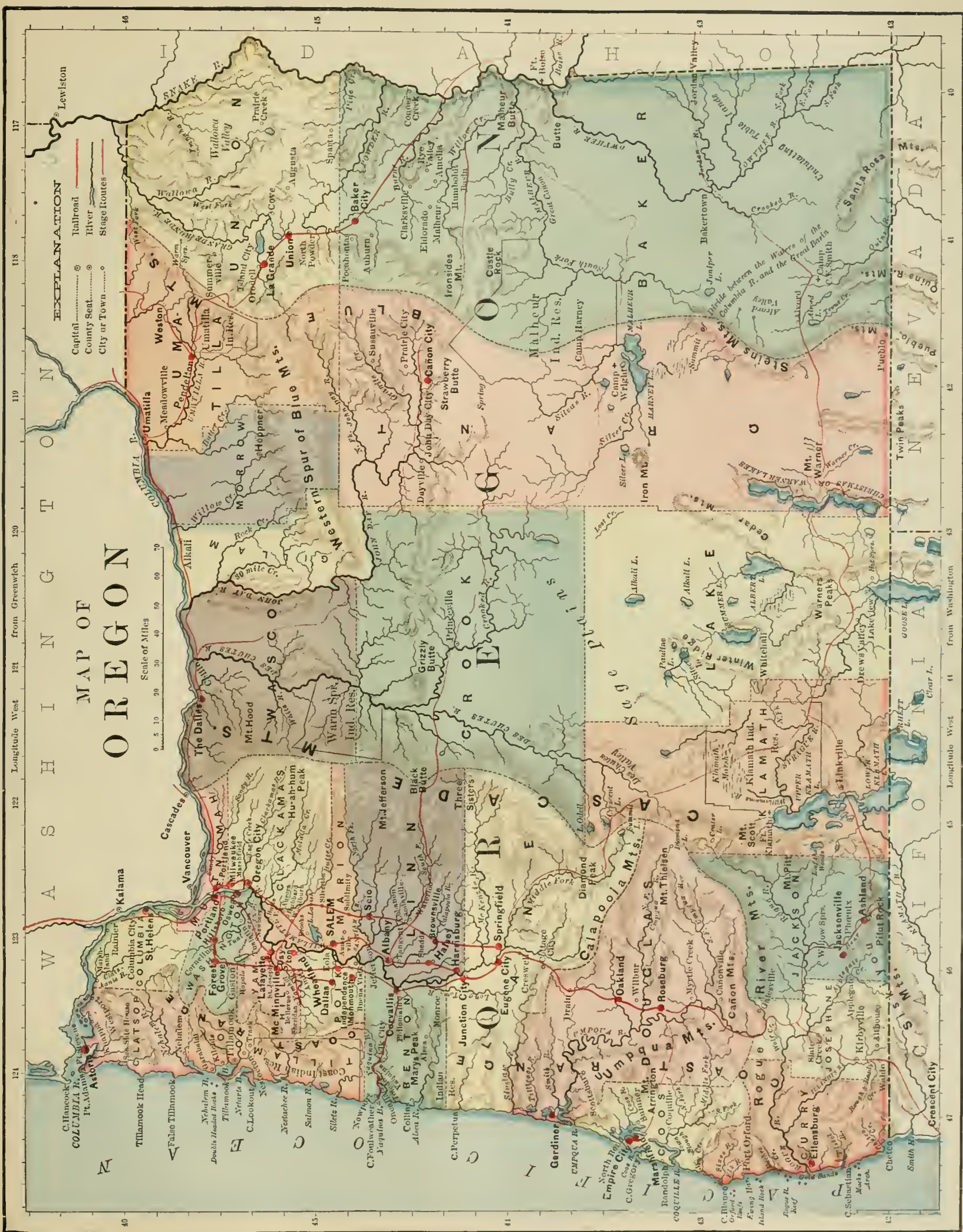
Climate.—The climate of Oregon is, in general, mild and healthful. In West Oregon it is moist and equable; in East Oregon, dry and variable. West Oregon has two seasons, the wet and the dry. The wet season usually begins in the latter part of November and lasts until March.



MOUNT HOOD.

elevation of from 1000 to 4000 feet and many local names. The country between these mountains and the Cascade Range is the most populous part of the state. It is divided by the Callapooia, Rogue River, and Siskiyou Mountains into three large, fertile valleys.

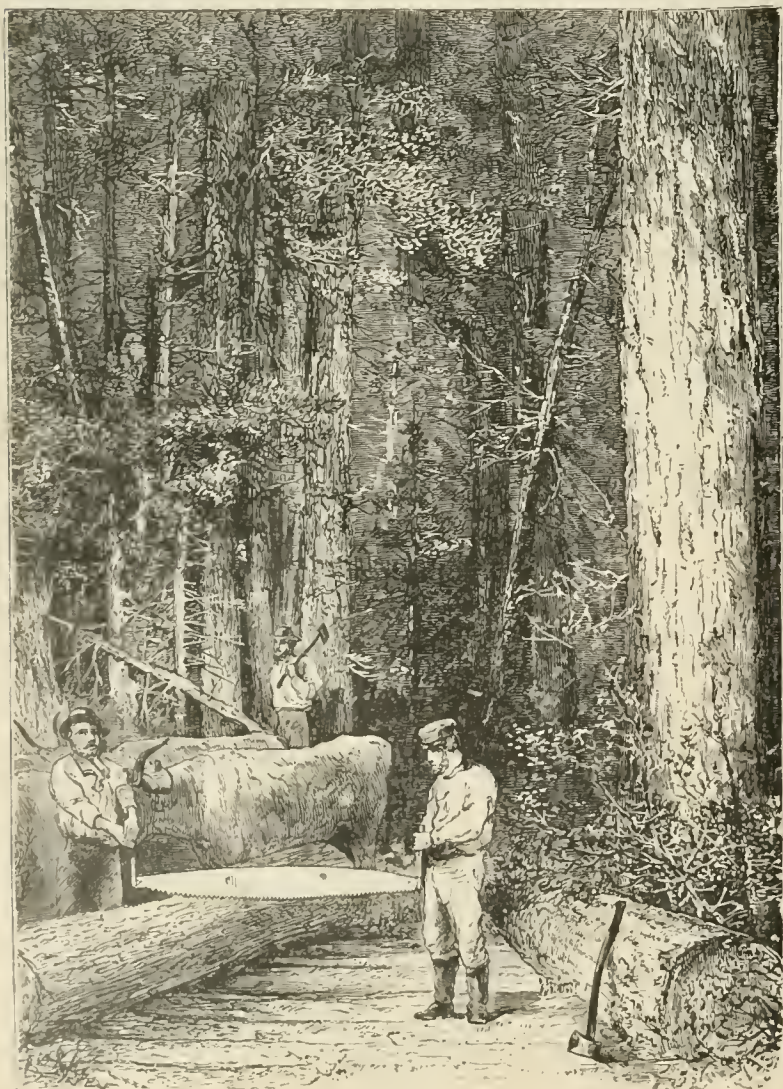
The most important and most extensive of these valleys is that of Willamette River. The greater part of it is a rolling prairie. Its length is about 140 miles, and its



or April. Snow occasionally falls, but is seldom deep, and soon disappears. Ice is rarely more than an inch or two in thickness. In some winters, flowers bloom in the gardens throughout the season, even as far north as the mouth of the Willamette. The dry season is longer in the south than in the north. During this part of the year the sky is generally clear. From June until October very little rain falls. The summer nights are always cool, the days never oppressive. The coast region has the most humid climate.

The climate of East Oregon is marked with greater extremes of temperature than that of the rest of the state. Winter begins late in December, and lasts about three months. The high Cascade Range shuts out the moist winds of the Pacific. While the annual rain-fall at the mouth of the Columbia is about 60 inches, in East Oregon it is only from 15 to 20 inches. Snow falls to the depth of 6 to 12 inches in the valleys, but is much deeper in the high mountain regions. Considerable rain falls in the spring. During the summer there is very little rain or dew. Occasionally the thermometer rises during the day to 100°; but even then the heat is not oppressive, owing to the dryness of the atmosphere; the nights are cool. In the high Klamath valley, 4200 feet, the deep snows lie from three to five months, and frost occurs in every month of the year.

Forests.—The forests constitute one of the most important resources of the state. They extend along the whole coast region, and from 15 to 20 miles into the interior, except where broken by the prairies in the valleys. They are most dense where exposed to the ocean winds. They are also found along the Columbia to just beyond the Dalles, and clothe the slopes of the Cascade Range. Even in East Oregon, the Blue Mountains and their principal spurs are well-wooded.



LUMBERING.

Most of the trees are evergreen conifers of species peculiar to the Pacific Coast. Trees six feet through the trunk are very common, and among the cedars and hemlocks are many that are from eight to ten feet in diameter and nearly 300 feet high. Some of these species furnish ship timber of the highest quality.

Animals.—Among the wild animals are the grizzly bear, black bear, cougar, gray wolf, coyote, mountain-sheep, elk, deer, and antelope. The eagle, buzzard, vulture, swan, goose, duck, albatross, and gull are the principal birds, and the salmon, cod, halibut, sturgeon, herring, and smelt the most important fishes. Lobsters, oysters, and clams abound.

Minerals.—The development of the mineral wealth of Oregon has, as yet, scarcely begun. There are extensive deposits of gold, silver, lead, copper, iron, salt, coal, marble, granite, soapstone, slate, clay, glass-sand, and other minerals.

Agriculture.—Agriculture is the leading interest of the state. The chief staple is wheat. The yield is large and of excellent quality. The greater part is raised in the Willamette valley. Many millions of bushels are annually exported. There are also large crops of barley, oats, potatoes, fruits, and garden vegetables. Cattle-raising and sheep-farming are also important branches of industry, the large wool crop of Oregon ranking among the best in the world.

Principal Mineral and Agricultural Products.

Gold and silver	\$1,300,000	Wool (pounds).....	5,718,524
Wheat (bushels).....	7,480,010	Hay (tons).....	266,187
Barley ".....	920,977	Horses.....	124,107
Oats ".....	4,385,650	Cattle.....	352,561
Potatoes.....	1,359,930	Sheep.....	1,083,162
Butter (pounds).....	2,443,725	Swine.....	156,222

Manufactures.—In the production and exportation of flour and lumber Oregon already holds a high rank. Among other articles largely produced are canned goods, woollens, salmon oil, packed beef and pork, tar, pitch, and turpentine.

Fisheries.—The neighboring ocean furnishes an abundance of oysters, cod, and halibut. The salmon fisheries of the Columbia are the most extensive in the world.

Commerce.—The foreign commerce of Oregon is already an element of importance in the prosperity of the state. From ports on the Columbia and the Willamette, many vessels sail every year to Great Britain, China, the Sandwich Islands, South America, New Zealand, and Australia, loaded with wheat, flour, wool, ship-timber, canned goods, and other products. A large export and import trade is carried on through San Francisco, and there is an extensive general coasting trade with California, Puget Sound, British Columbia, and Alaska. The navigable rivers furnish cheap transportation for hundreds of miles through rich farming, lumbering, and mineral regions.

Columbia River is navigable for large vessels to Portland, on the Willamette, 112 miles from the sea, and to Vancouver, about the same distance. Vessels of 200 to 300 tons ascend to the head of tide-water at the Cascades, 160 miles from the mouth. Here is a railroad portage of six miles. Beyond this, the river is navigable forty miles, to the Dalles, where there is a second railroad portage. Above this point, small steamers ascend Snake River to Lewiston, in Idaho, 470 miles, and the main river to Priest Rapids, in Washington Territory, 396 miles from the sea.

On the Willamette, small steamers run to Salem all the year, and to Eugene City, 138 miles from Portland, during high water. At Oregon City the river falls 40 feet over a ledge of rocks. Locks allow direct passage to these vessels. There are other navigable streams, but none so important.

The most important railroad in the state belongs to the Oregon Railway and Navigation Company, and extends from Portland along the south bank of the Columbia River to Wallula, where it connects with the Northern Pacific Railroad from Duluth, on Lake Superior. From Umatilla a branch extends in a southeasterly direction to Huntington, where it meets the Oregon Short Line Railroad, a branch of the Union Pacific, forming continued railway communication between Portland and Omaha. The Oregon and California Railroad extends from East Portland southwards to Ashland, in the southern part of the state. The Oregon Central Railroad, on the west side of the Willamette River, runs from Portland to Corvallis. The Northern Pacific Railroad extends from Portland to the Columbia River opposite Kalama, in Washington Territory.

Political Organization.—The executive officers of the state are a Governor, Secretary of State, a State Treasurer, and a Superintendent.

ent of Public Instruction, who hold office for four years each. The Secretary of State is also, *ex officio*, Auditor of Public Accounts.

The legislative power is vested in a Legislative Assembly, which comprises a Senate of thirty members, and a House of Representatives of sixty members. The term of a Senator is four years, that of a Representative two years. The judicial power is vested in a Supreme Court, Circuit Courts, County Courts, and Justice's Courts. All the executive officers, legislators, and judges are elected by the people. Oregon is represented in Congress by two Senators and one Representative, and has, therefore, three electoral votes.

The state comprises twenty-seven counties and contains the following cities and towns:

PORTLAND, in Multnomah County, is the commercial metropolis of the Columbia valley, and the largest city in Oregon. It is on the left bank of the Willamette, about 13 miles from its junction with the Columbia, and at the head of ship navigation. It was founded in 1844, and became a city in 1855. Population, 17,579.

Portland is built on a plateau, from the higher parts of which fine views are presented of the city and its shipping, of Mt. Hood in the distance, and the fertile Willamette valley.

Its manufacturing establishments include foundries, saw and planing mills, and soap, carriage, furniture, and other factories.

In 1884 the wholesale trade of Portland amounted to \$40,650,000.

It is the shipping-point for the large wheat crop of the Willamette valley, to which is added a great and rapidly increasing amount from far up the Columbia. Ocean steamers and sailing-vessels carry on a direct export and import trade with Great Britain, China, Japan, New Zealand, and Australia, and regular lines of coasting-vessels run to San Francisco, Victoria in British Columbia, the various ports on Puget Sound, and to Sitka in Alaska.

It is also the western terminus of the railroad belonging to the Oregon Railway and Navigation Company, which is a link of the great Northern Pacific Railroad joining the railway systems of the Eastern States with those of Oregon.

Portland has an efficient system of public schools, including high, intermediate, and grammar grades, and is the seat of the Medical Department of the Willamette University.

SALEM, in Marion County, is the capital of the state. It is situated on the Oregon and California Railroad and the east bank of Willamette River. Steamers run regularly from this point to Portland during about three fourths of the year. Mill Creek furnishes a great water-power. There are several large mills producing woollen goods, flour, and linseed-oil. There are also machine-shops, tanneries, foundries, etc. The city is the seat of Willamette University. Population, 2538.

Albany—in Linn County, on the Oregon and California Railroad, and on the east bank of the Willamette. Shipping port. In a rich agricultural section. A canal 13 miles long and 25 feet wide brings the water of South Santiam River for manufacturing purposes. Saw, planing, and flouring mills; machine-shops; sash and door, carriage and wagon factories. Elevators and grain warehouses. Population, 2400.

Ashland—in Jackson County, on Bear Creek, southern terminus of the Oregon and California Railroad. Stages to Redding, in California. Iron foundry, saw, grist, and woollen mills. Population, 1000.

Astoria—in Clatsop County, at mouth of the Columbia. Important seaport. Headquarters of the Salmon fisheries of the Columbia. Summer resort. Great facilities for lumbering and ship-building. Population, 6000.

Baker City—in Baker County, on the Oregon Short Line Railroad and south fork of Powder River. In a fertile valley. Large trade with mining and agricultural districts. Population, 1600.

Corvallis—in Benton County, on the Oregon Central Railroad, and west bank of the Willamette. A trading and manufacturing centre. In fine farming region. Seat of State Agricultural College. Population, 1300.

Dallas—in Polk County, on La Creole Creek. Many manufacturing establishments. Leather, wagons, flour, etc. Population, 500.

The Dalles—in Wasco County, on Columbia River, at Upper Cascade Rapids. River narrowed here to a width of 115 feet between walls of rock. Connected with Portland and the east by railroad. Unlimited water-power. Population, 1000.

East Portland—in Multnomah County. Terminus of the Oregon and California Railroad and of the line of the Oregon Railway and Navigation Company. On Willamette River, opposite Portland. Beautiful residences, extensive warehouses, factories, machine-shops, etc. Population, 3000.

Eugene City—in Lane County, on the Oregon and California Railroad and left bank of Willamette. River navigable to this point. Ships an immense amount of agricultural products. Seat of State University. Population, 2000.

Forest Grove—in Washington County, on the Oregon Central Railroad, and in the fertile Tualatin Plains. Seat of Pacific University and Tualatin Academy. Population, 517.

Jacksonville—in Jackson County, on Bear Creek, and the Oregon and California Railroad. Centre of trade of a great and fertile valley. Gold and silver mines. Veins of copper and magnetic iron ore. Population, 839.

Marshfield—in Coos County, on Coos River. Terminus of a short railroad from coal-mines. Population, 642.

McMinnville—in Yamhill County, on south fork of Yamhill River. Seat of McMinnville College. Population, 670.

Oregon City—in Clackamas County, on east bank of Willamette River and on the Oregon and California Railroad. River here flows through a deep cañon. Chief part of the city is in the cañon. River made navigable for steamers by a series of costly locks on opposite bank. Mills for manufacture of flour and lumber. Woollen-mills. Population, 1500.

Pendleton—in Umatilla County, on Umatilla River and the line of the Oregon Railway and Navigation Company. Several large agricultural valleys radiate from this point. Population, 1800.

Roseburg—in Douglas County, on east bank of Umpqua River, on the Oregon and California Railroad. Excellent water-power. Grain and wool market. Population, 1000.

Umatilla—in Umatilla County, on the Columbia and on the line of the Oregon Railway and Navigation Company, and junction with branch to Huntington. Freight depot for eastern Oregon and Idaho. Lines of river steamers. Large shipments of wool. Population, 149.

Brownsville, Cañon City, Dayton, Empire City, Halsey, Harrisburg, Hillsboro, Independence, Junction, Lafayette, Oakland, Union, Weston, and Wheatland are also important places.

Education.—The State Board of Education consists of the Governor, the Secretary of State, and the Superintendent of Public Instruction. County superintendents and boards of district officers are elected by the people.

History.—The coasts of Oregon and Washington were probably first visited, by Spanish navigators, about the middle of the sixteenth century. In 1592 Juan de Fuca, a Greek commanding a small Spanish vessel, entered the strait which still bears his name. In 1775 a Spanish expedition was the first to reach the 58th degree of north latitude. In 1778 the celebrated English navigator Captain Cook sailed along the western coast of America a distance of more than 2000 miles and minutely explored the shores of Washington and of British Columbia. He was followed, in 1792, by Vancouver.

In 1791 Captain Robert Gray, an American fur-trader commanding the ship *Columbia*, of Boston, entered and partly explored a great river, to which he gave the name of his ship. The purchase of Louisiana in 1803, and the report of the important discovery made by Captain Gray, led the United States government to send out an exploring expedition under Captains Lewis and Clarke. They ascended the Missouri to its source, and thence passed over into the valley of the Columbia, which they descended to the sea in 1805.

In 1810 John Jacob Astor, of New York, organized the Pacific Fur Company, which, in 1811, established a trading settlement at Astoria, near the mouth of the river. During the war of 1812–15 it fell into the hands of Great Britain, but was restored at the conclusion of the war. In 1819 Spain ceded Florida to the United States, together with "all rights, claims, and pretensions to any territory north of the parallel of 42°, and westward to the Pacific Ocean."

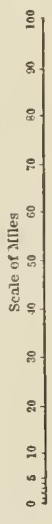
Upon the explorations of Cook, Vancouver, and others, Great Britain claimed the west coast between 42° and the Russian possessions in Alaska. The United States laid its claim to a large part of the same region upon the discoveries of Gray, the explorations of Lewis and Clarke, the establishment of Astoria, and the acquisition of the rights of Spain. In 1846, after a prolonged and threatening controversy, a treaty with Great Britain established the northern boundary-line as it now exists.

In 1843 and 1844 large bodies of emigrants from the Missouri entered Oregon after a perilous overland journey, and liberal grants of land subsequently attracted still larger numbers. The Territory of Oregon was organized in 1848. In 1857 a state constitution was adopted. On the 14th of February, 1859, Congress admitted Oregon as a state with its present limits.

Questions.—Describe the situation of Oregon. The surface. The drainage. Climate. Forests. Animals. Minerals. Agriculture. Manufactures. Fisheries. Commerce. Political organization. Describe Portland. What is said of education? Of the history of Oregon.



MAP OF WASHINGTON TERRITORY



EXPLANATION
Capital
County Seat
City or Town
Railroad
River
Stage Routes

QUESTIONS ON THE MAP.

4. What country bounds Washington on the north? What territory on the east? What state on the south? What water on the west? What island northwest? What waters separate Vancouver from Washington? What sound is connected with the Strait of Fuca? What bays on the coast? Name the chief islands belonging to Washington. The chief capes. The great mountain range. Its chief peaks. Into what two parts does it divide the territory? (*Hus. East Washington and West Washington.*) What other mountains in East Washington? In West Washington?

What river forms a part of the southern boundary? Of the eastern boundary? Name the chief branches of the Columbia in East Washington. In West Washington. What rivers flow into the ocean? Into Puget Sound?

Name the counties of East Washington. What counties of West Washington border on the Columbia? On the ocean? On Puget Sound? Between the sound and British Columbia? What county not previously mentioned?

What town is the capital of Washington? What other towns on Puget Sound? North of Puget Sound? On the ocean? On Columbia River? In Walla Walla valley? What other towns in East Washington?

DESCRIPTION.

[Area, 69,480 square miles. Population 75,116.]

Situation.—Washington Territory is the extreme northwestern division of the Union, if we except the outlying and distant region of Alaska. It lies between the parallels of 45° 30' and 49° north latitude and the meridians of 117° and 124° 45' west longitude. Its extreme length from east to west is about 340 miles, and its breadth from north to south about 240 miles.

Surface.—In surface, climate, productions, and the general character of its resources it greatly resembles Oregon, though somewhat smaller than its sister state. The Cascade Mountains cross the territory from south to north, from Oregon into British Columbia. Their highest peaks are, Mount Baker, 10,500 feet; Mount Rainier, 14,444 feet; Mount St. Helens, 12,000; and Mount Adams, 9570 feet. All of these are extinct volcanoes. Several of these peaks have extensive glaciers, and their summits are covered with perpetual snow. The part of the territory lying east of the mountains is known as East Washington. Its area is about 50,000 square miles. It contains several extensive plains, the principal of which are the Klikitat prairie and the great Spokane plateau, or Plain of the Columbia. The

remaining and greater part of the surface is high, rolling, and irregular, much broken, and even mountainous. The Blue Mountains cover the southeastern angle of the division. West Washington, the remainder of the territory, has an area of about 20,000 square miles. It has three principal subdivisions. The most southern of these is in the Columbia basin. It is low near the river, but farther back it is high and broken. Northwest of this is the Chehalis valley. It is from 15 to 20 miles wide, and has an area of about 2000 square miles. The third and largest division is the basin of Puget Sound. It has an area of about 12,000 square miles. Though both this and the Chehalis region have rugged and broken surfaces, they contain many broad, low, and fertile valleys. The Olympic or Coast Mountains extend along the western part of the territory from the Columbia to the Strait of Fuca. They are most prominent in the peninsula between Puget Sound and the ocean. Their highest peak is Mount Olympus, 8138 feet.

Coast.—The two great headlands are Cape Hancock, at the mouth of the Columbia, and Cape Flattery, at the entrance of the Strait of Fuca. Between these is a bold coast about 180 miles long, and almost unbroken except at Shoalwater Bay and Grays Harbor. The Strait of Fuca is about 12 miles wide, and extends eastward about 84 miles. It then divides on the north into two principal channels, the Canal de Haro and the Strait of Rosario. Their shores have many indentations, the most important of which is Bellingham Bay. The two channels connect the strait with the Gulf of Georgia.

From the eastern end of the strait Puget Sound extends in a southerly direction. Its length is about 80 miles measured on a straight line. It has numerous deep arms and bold shores, and enables large ocean vessels to reach parts of the territory that are 150 miles from the sea.

Puget Sound and the Strait of Fuca, with their branches and numerous islands, possess a total shore line of nearly 2000 miles. This remarkable arm of the sea, the "Mediterranean of Western America," possesses an extraordinary number of fine harbors, among which are Port Discovery, Washington Harbor, New Dungeness Bay, Port Angeles, Neah Bay, and many others.

Drainage.—The Columbia is the chief river, and drains the whole of East Washington and a considerable part of West Washington. It is navigable throughout the territory, with occasional interruptions by rapids. It has a large number of tributaries wholly or partly within the territory. The chief of these are Clarkes Fork, the Colville, Spokane,

Snake, Walla Walla, Okanogan, and Yakima. The Snake is navigable to the Idaho line, and has many tributaries. Below the mouth of Snake River the Columbia receives numerous streams, the chief of which, the Cowlitz, is navigable for about 24 miles. Of other streams flowing directly into the Pacific, the most important is the Chehalis, which is navigable for about 60 miles. The Dwamish, navigable for 30 miles, and the Snohomish, for 35 miles, are the chief of the many rivers flowing into Puget Sound. The largest lake is the Chelan, in East Washington; the most important in West Washington are lakes Washington, Quinalt, and Whatcom.

Climate.—In West Washington the year is divided into two seasons, the wet and the dry. The wet season usually lasts from November until March or April. The average annual rainfall at Steilacoom is about 54 inches. It is greater on the Pacific Coast, and increases towards the north. At Cape Flattery 130 inches have been recorded. The snows are light and lie but a short time, and but little ice is formed. Notwithstanding the high latitude, grass is green nearly throughout the year, and flowers are often in bloom in midwinter. The rest of the year is not altogether rainless. Showers occasionally fall even in midsummer. The thermometer sometimes reaches 90° or over, but the nights are always cool. At Steilacoom the hottest month, July, averages 65°; the coldest, January, 38°. The average for the year is 51°.

East Washington is drier and has greater extremes. In the Walla Walla valley the average annual rainfall is about 18 inches. The mean temperature of the summer months is 73°; of the winter, 34°; of the year, 53°. In the north and towards the boundary of British Columbia the winters are several degrees colder.

Forests.—The forests of West Washington surpass those of every other territory or state in extent, and in the immense numbers of grand trees suitable for lumber of the best quality.

The trees consist of species of red and black firs of great size; yellow firs and black spruces, the former reaching to a height of 300 feet, and both kinds much used for the masts and spars of ships; the Oregon cedar, which furnishes an unlimited supply of rails and shingles; and many other valuable trees. In East Washington timber is found only on the slopes of the mountains and in the valleys along the banks of the streams. The mountain timber consists chiefly of evergreens; that of the valleys is mostly cottonwood and alder, with some pine and cedar.

Animals.—Among the chief mammals are the bear,

cougar, wolf, elk, deer, mountain-sheep, beaver, otter, and fox; among the birds, the hawk, eagle, crane, plover, grouse, swans, geese, and ducks. The waters swarm with fish, the most valuable of which are the salmon, cod, halibut, herring, and sturgeon. On the coast and arms of the sea are whales and seals, besides lobsters, clams, and oysters.

Minerals.—The mineral resources are as yet but little developed, but they are already known to be very valuable and in great variety. The bars and banks of the Columbia and its tributaries for a period furnished a large amount of gold, but the product has greatly diminished. The deposits of coal are very extensive and of great value. It is extensively mined at Bellingham Bay, Seattle, Lake Washington, and other localities, and already constitutes an important article of export to San Francisco and other markets.

Agriculture.—Much of the forest land is exceedingly fertile, and, when cleared of timber, highly productive. There are also large tracts of prairie and of other open land which have a rich soil, and are ready for the farmer. They are mostly in the valleys. The agricultural lands of the territory are capable of supporting a dense population. Large crops of wheat, barley, oats, and rye, and of potatoes, turnips, and other vegetables, are produced; and fruits, such as apples, pears, plums, and cherries, are of excellent quality.

In East Washington much of the land in the Columbia valley is suitable for agriculture, and a much larger quantity is remarkably well fitted for the raising of sheep and cattle. The climate is not severe,

and the nutritious bunch-grass furnishes an abundance of food throughout the year. In some parts peaches and Indian-corn thrive. But the chief staple is wheat. In Walla Walla and Columbia counties, and the parts adjacent, an annual surplus crop of between two and three millions of bushels is exported, and the quantity is rapidly increasing year by year. It is estimated that this portion of the territory is capable of furnishing an annual supply of between forty and fifty millions of bushels.

Manufactures.—The chief

manufactures are lumber and flour. The annual export of lumber exceeds 250,000,000 of feet, and is valued at, at least, two and a half millions of dollars. Most of it is made in the Puget Sound region.

Fisheries.—The fisheries are of considerable importance. The chief products are salmon, barrelled and canned, cod, and oysters. The chief salmon fisheries are on the Columbia, near its mouth.

Commerce.—The extraordinary extent of protected navigation on Puget Sound and its adjacent waters, the great number of excellent



MOUNT RAINIER, OR TACOMA.

harbors, and the numerous navigable rivers give easy access to a very large part of the territory, and an abundance of the cheapest form of transportation. The Northern Pacific Railroad furnishes direct and rapid communication between Puget Sound and the Great Lakes and Mississippi valley. Its western division—from Tacoma, on Puget Sound—extends to Portland *via* Kalama, on the Columbia.

There are also branches of the Oregon Railway and Navigation Company extending from Wallula to Walla Walla, and to Riparia and Dayton, a portage road at Cascades, and short roads from tide-water on Puget Sound to the coal-mines in King and Pierce counties.

An immense amount of lumber is exported, together with coal, fish, grain, provisions, and live-stock. The coal and lumber are chiefly from Puget Sound; the grain is from Walla Walla, Columbia, Garfield, and Assotin counties, the richest and most populous in the territory.

Political Organization.—The chief executive officers of the territory are the Governor and Secretary, who are appointed by the President of the United States with the consent of the Senate. Their terms are four years each. There are also an Auditor and a Treasurer, who are appointed by the Governor and Council for terms of two years each.

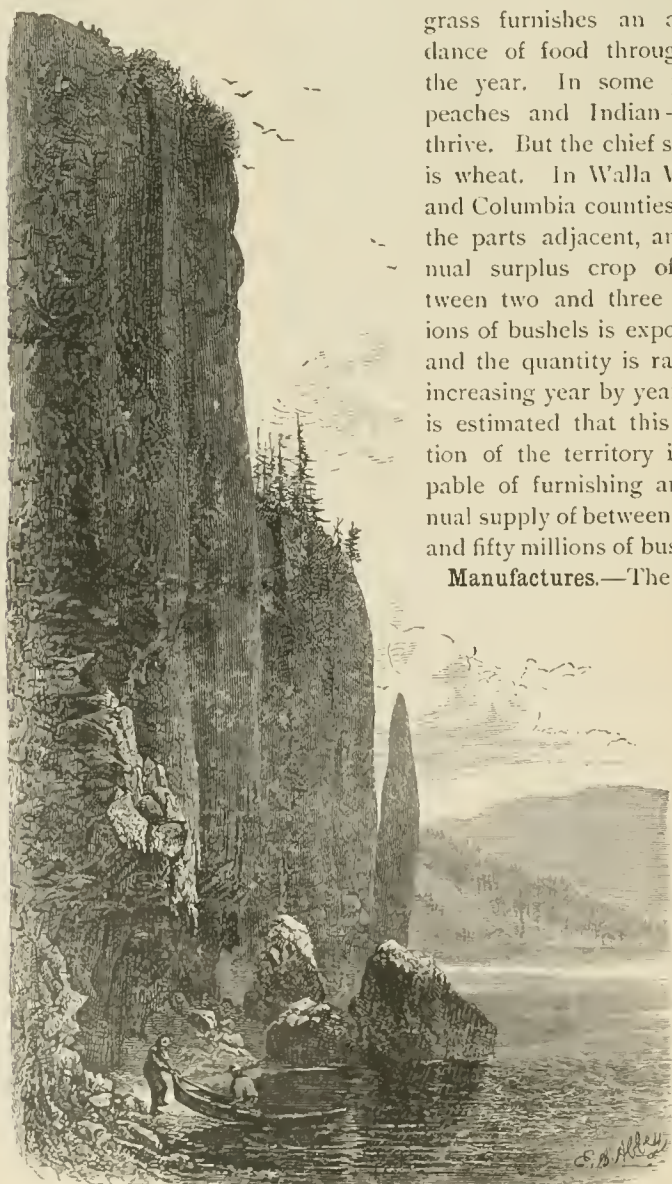
The legislature consists of the Council of nine members and the House of Representatives of thirty members.

The judicial power is exercised by the Supreme Court, the judges of which are appointed by the President and Senate of the United States, and serve for four years each. There are also District Courts, County Probate Courts, and Justice's Courts. The legislators, probate judges, and justices are elected by the people.

The territory comprises thirty-three counties. The three most populous districts are Puget Sound, the Walla Walla valley, and the lower part of the Columbia valley. There are fifteen Indian reservations, and an Indian population of over 10,000. They comprise about 40 small tribes.

Though there are as yet no large towns in Washington, some of those given in the following list are already important centres, and give promise of continued and rapid advance in population and wealth.

OLYMPIA, in Thurston County, is the capital of the territory, and is one of its most enterprising towns. It is the terminus of an important branch of the Northern Pacific Railroad, and is advantageously situated on Budds Inlet, the most southerly arm of Puget Sound. It is 200 miles from the sea, and 80 miles south of Port Townsend, at the entrance of the sound. It has a remarkable harbor. Owing to the peculiar con-



SCENE ON COLUMBIA RIVER.

formation of the shores, the tide here rises and falls about 24 feet. This affords unusual advantages for the construction of dry docks, and for the repair of shipping.

Olympia is beautifully situated at the foot of forest-clad hills and mountains. On one side is the snow-capped Mount Olympus, and on the other the lofty Mount Rainier lifts its summit above the clouds. The whole presents a view of mountain and valley, land and water, remarkable for its beauty and variety. In and around the city are fine orchards which add greatly to its attractiveness. About a mile to the south are the Falls of Tumwater, three beautiful cascades, where the Des Chutes falls to the lower level of the sea. Population, 1967.

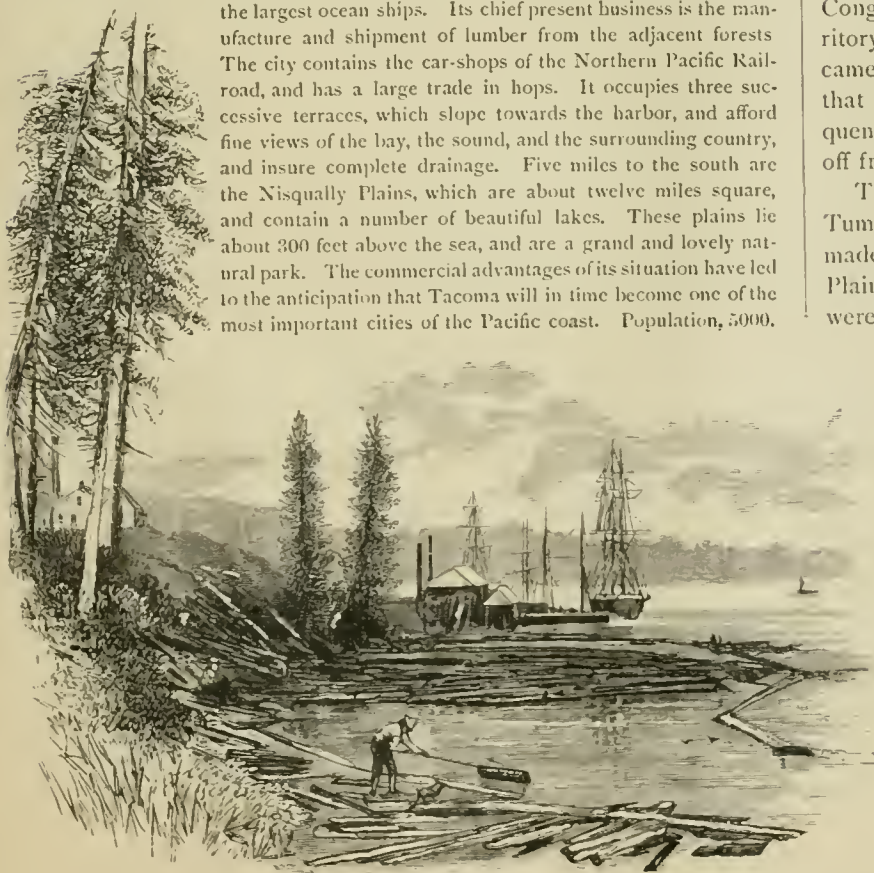
KALAMA, in Cowlitz County, is on the bank of the Columbia, 77 miles from its mouth, and on the Pacific division of the Northern Pacific Railroad, which extends from opposite Kalama to Portland, Oregon. A wharf 700 feet long presents facilities for the largest vessels. Steamers run to Portland and other points on the Willamette and Columbia. Excellent coal is mined near the town. The canning of salmon is one of the local industries.

PORT TOWNSEND in Jefferson County, is commercially the most important town in Washington. It is the port of entry for the territory. The United States Custom-house and the Marine Hospital are located here. It is sixty-five miles from the ocean, on a fine harbor at the point where Puget Sound unites with the Strait of Fuca. The chief business section is built on a beach; the churches, schools, and most of the private residences are on a bluff overlooking the bay. Lines of steamers run to all ports in the neighboring waters, including Victoria and other points in British Columbia. The local resources include forests of pine, spruce, and fir, and a great abundance and variety of fish. There are also extensive sandstone quarries, from which excellent building-stone is shipped to San Francisco and other ports. Population, 917.

SEATTLE, in King County, is situated on the eastern side of Puget Sound on Elliott Bay, at the mouth of Dwamish River. It has an excellent harbor and other commercial advantages. There are extensive and valuable beds of iron-ore in the vicinity, and rich deposits of coal. The latter mineral is largely shipped, and a great amount of lumber is manufactured. Lake Washington, about two and a half miles to the east, is a beautiful sheet of fresh water about twenty miles long. The coal-mines are on its banks. Seattle is the seat of Territorial University. Population, about 8000.

TACOMA, in Pierce County, is situated on Commencement Bay, an eastern arm of Puget Sound, and is the western terminus of the Northern Pacific Railroad. Its harbor covers four square miles, is perfectly safe, and is deep enough for

the largest ocean ships. Its chief present business is the manufacture and shipment of lumber from the adjacent forests. The city contains the car-shops of the Northern Pacific Railroad, and has a large trade in hops. It occupies three successive terraces, which slope towards the harbor, and afford fine views of the bay, the sound, and the surrounding country, and insure complete drainage. Five miles to the south are the Nisqually Plains, which are about twelve miles square, and contain a number of beautiful lakes. These plains lie about 300 feet above the sea, and are a grand and lovely natural park. The commercial advantages of its situation have led to the anticipation that Tacoma will in time become one of the most important cities of the Pacific coast. Population, 5000.



SAW-MILL.

VANCOUVER, in Clarke County, is situated on the Columbia, about 100 miles from its mouth. It is one of the oldest towns in the territory. The river is here a mile wide, and the port admits the largest vessels. Population, 1750.

WALLA WALLA, in Walla Walla County, is situated on a river of the same name, and on the line of the Oregon Railway and Navigation Company. It is the largest town in the territory, and is the chief depot of one of the richest agricultural districts of the Pacific Coast region. From this point excellent roads radiate in every direction to the mining and grazing regions. It ships a great amount of wheat and wool. Population, 5500.

Cascades—in Skamania County. Point of transfer of cargoes by railroad portage of six miles to the head of the first rapids. River here contracts to a narrow channel.

Colfax—in Whitman County, on branch railroad. Trade with rich agricultural region, and an immense grazing country. Population, 462.

Dayton—in Columbia County. Eastern terminus of one of the branches of the Oregon Railway and Navigation Company. Large trade with farming and grazing country. Woollen, sawing and planing, and flouring mills. Population, 2500.

Oysterville—in Pacific County, on narrow peninsula between Shoalwater Bay and the ocean. Large oyster trade. Other fisheries.

Spokane Falls—in Spokane County, on the Northern Pacific Railroad. Rapidly growing town, in a rich agricultural and lumber district. Distributing point for the Cœur d'Alene

mines. Excellent water-power. Population, 1500.

Stellacoom—in Pierce County, near the head of Puget Sound. Near Northern Pacific Railroad. Exports beer, ship-knees, lumber, wool, fish, flour, and grain. Population, 250.

Tumwater—in Thurston County, on Budds Inlet, at mouth of Des Chutes River. River falls about 80 feet in less than a quarter of a mile. Great water-power. Flour and saw mills, sashes and doors. Population, 2500.

Walla Walla—in Walla Walla County, on Columbia River, at the junction of the Northern Pacific Railroad and the line of the Oregon Railway and Navigation Company. Important shipping point for Walla Walla valley. Post of Hudson Bay Company in 1820.

Whatcom—in Whatcom County, on east shore of Bellingham Bay, near the national boundary-line. Ships coal and timber.

Among other places of importance in the Puget Sound district are Blakely, Port Madison, Port Gamble, San Juan, and Snohomish City; in the Lower Columbia district, Cathlamet, Watsburg, and North Yakima; Fort Colville, on the Upper Columbia; and Cheney, Sprague, Pasco, and Ainsworth on the Northern Pacific Railroad.

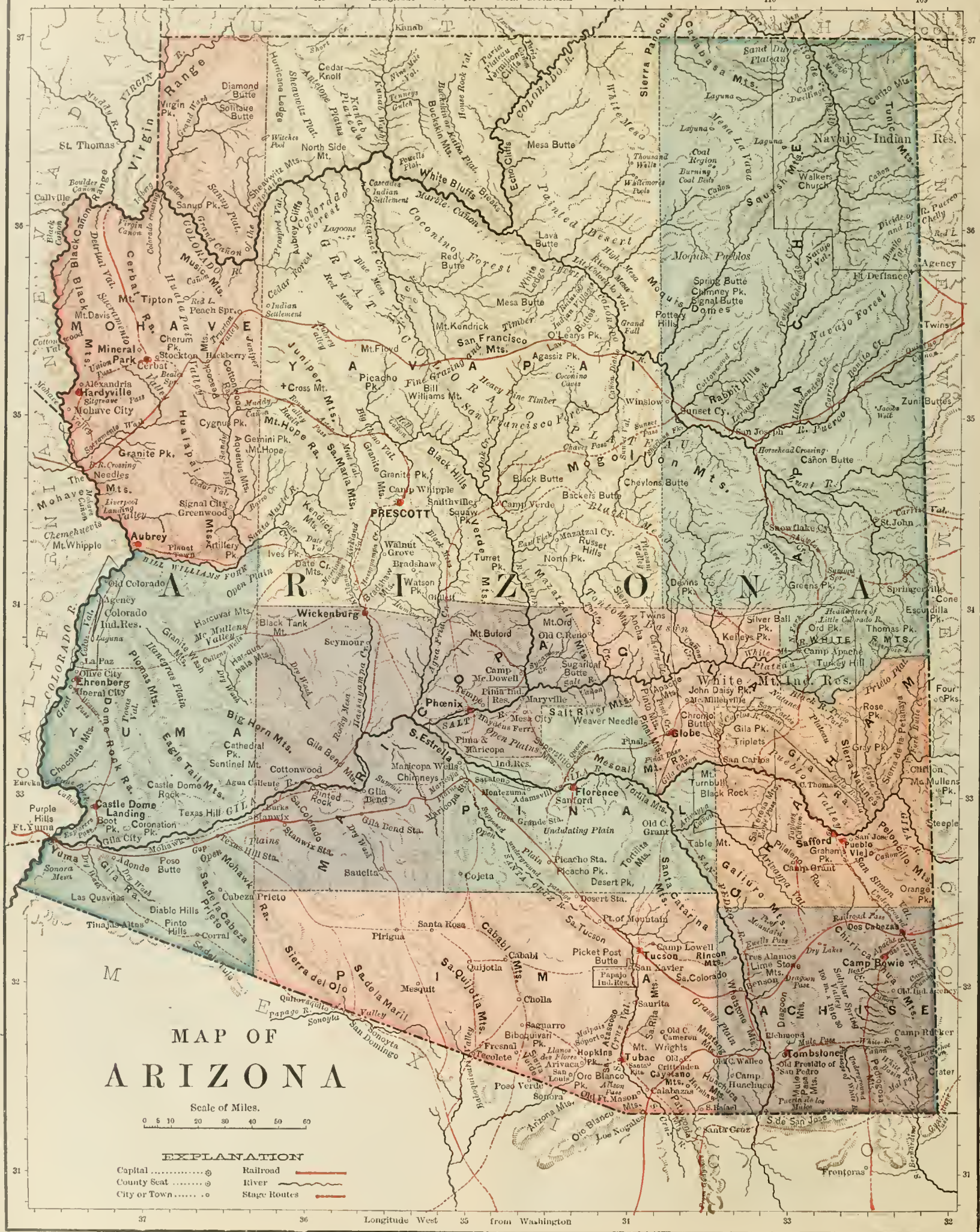
Education.—The public schools are under the supervision of the Superintendent of Common Schools, appointed by the Governor and Council for two years; County Superintendents, elected in each county; and School District Directors. The Territorial University is located at Seattle. Forty-six thousand and eighty acres of the public lands were assigned by the United States government for its establishment and support. One eighteenth of all the public land in the territory, about 3000 square miles, is set aside for school purposes, but cannot be sold until the territory becomes a state.

History.—The Territory of Washington was organized by act of Congress, March 2, 1853. Previous to this it formed a part of the Territory of Oregon. In 1859, when Oregon became a state, the eastern part of the territory of that name was annexed to Washington. Subsequently Idaho and a part of Wyoming were cut off from Washington.

The first American settlement was made at Tumwater, in 1845, by a few families who had made the long and perilous journey across "The Plains." Before this its only white inhabitants were the employes of the Hudson Bay Fur Company of Great Britain. The treaty of 1846 between that country and the United States contained a clause in relation to the national boundary-line the meaning of which was disputed. After a long controversy the matter was referred, by both governments, to the arbitration of the German emperor, who, in 1872, decided that the boundary-line ran, not through Rosario Strait, but through the Canal de Haro. By this decision the islands between these two straits were awarded to the United States. In 1873 they were politically organized as San Juan County. In 1879 the people of Washington decided, by popular vote, to establish a state constitution, and within a brief period the Territory will, without doubt, become a State.

Questions.—Describe the situation of Washington Territory. The surface. Coast. Drainage. Climate. Forests. Animals. Minerals. Agriculture. Manufactures. Fisheries. Political organization. Describe Olympia. What is said of education? Give an account of the history of Washington Territory.





SPECIAL GEOGRAPHY OF ARIZONA.

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QUESTIONS ON THE MAP.

What territory north of Arizona? What territory east? What country south? What two states west?

What is the general character of the surface of Arizona? What large river forms most of the western boundary of the territory? Through what part of the territory does it flow? Name the three chief branches of the Colorado in Arizona. Which branch crosses the southern part of the territory? What river flows into the Gila from the south? Name one other branch of the Gila. What river flows into Salt River from the north?

Name the counties of Arizona. What three counties border on Utah? What three on New Mexico? What three on Mexico? What two on California and Nevada? What two counties not already named are crossed by Gila River? What one by Salt River?

What is the capital of Arizona? What town northwest of Prescott? Southwest? Name five towns on Colorado River. One on Salt River. Three on or near Gila River? What five towns in the southeastern part of the territory? What three in the southwestern part?

DESCRIPTION.

[Area, 113,020 square miles. Population 40,440, besides over 20,000 Indians on the Reservations.]

Situation.—Arizona lies between the parallels of $31^{\circ} 37'$ and 37° north latitude, and between $109^{\circ} 3'$ and $114^{\circ} 25'$ west longitude. Its surface is about equal to the combined area of New York, Pennsylvania, New Jersey, Maryland, and Delaware.

Surface.—Arizona consists of a series of successive wide plateaus, the lowest in the southwest, the highest in the northeast. The highest part comprises the southern half of the Colorado Plateau (see page 24), which covers about two fifths of the territory. This portion of Arizona consists of three broad benches or platforms, the Mogollon Mountains form the steep edge of the lowest bench.

The platforms, which, with other similar elevations, are called *mesas*, have an average elevation of from 4000 to 6000 feet. They present a generally level surface, upon which stand a great number of short ranges, isolated peaks, and bluffs. Among these is Humphrey's Peak, in the San Francisco Mountains, a snow-covered volcanic cone 12,561 feet in height. It is the highest in Arizona.

Into these platforms the Colorado and its numerous branches have cut broad valleys and deep cañons, whose perpendicular walls rise from 1000 to 3000 feet, and in the Grand Cañon of the Colorado (see page 61) 6000 feet to the general level of the mesa. These valleys are filled with a wild confusion of gigantic buttes, or flat-topped hills with perpendicular sides, castellated rocks, and rude buttresses, the rugged and fantastic remnants of the numerous strata of rocks, white, brown, gray, buff, red, green, and vermilion, which have been torn away by the action of water; the whole presenting scenes of mingled beauty, sublimity, and desolation unsurpassed on the globe.

The rest of the territory varies greatly in elevation. The Colorado valley near Yuma is only from 60 to 100 feet above the sea. In the east and northwest the general elevation is several thousands of feet. The plateaus are covered with numerous parallel ranges of mountains with long, intervening valleys. There are also many isolated precipitous mesas and detached mountain groups. In the high eastern region are beautiful park-like valleys.

Arizona has numerous extensive lava fields and extinct volcanoes. The principal fields are along the valley of the Gila, and cover many thousands of square miles. The chief volcanoes form an irregular line on the Colorado Plateau near the 35th parallel. On a long lava stream in the southwest stands a double row of low cones with numerous craters.

The highest peaks of the White and the Santa Reta Mountains, and Graham's Peak, reach an elevation of over 10,000 feet.

Drainage.—The character of the drainage of Arizona is remarkable. Hundreds of swift streams flow at the bottom of deeply eroded cañons, leaving the surface of the country arid and barren. All of the flowing waters of the territory fall into the Colorado, which forms the greater part of the western boundary.

The most extraordinary of the cañons are along this stream. Beginning at its great bend at the northwestern corner of Arizona, a series of deep gorges extends continuously for hundreds of miles, and far beyond the northern border of the territory. The swiftness of the stream, its rocky bed, and numerous rapids render navigation impossible. Many of the tributary streams pass through cañons scarcely less wonderful.

The most important tributary is the Gila. It flows from New Mexico entirely across the territory. Its valley is the only important depression across the Great Western Highland from Canada to Mexico. It is very narrow and swift, and is quite shallow during most of the

year. In the rainy season it brings down an immense body of water. It has many branches. The valley of the Santa Cruz furnishes the best route into Mexico.

Climate.—The large and varied surface of Arizona presents many varieties of climate. In the Colorado valley, and especially in the low region near Fort Yuma, the summer heat is intense and long-continued, sometimes reaching 118° . The average rain-fall is less than three inches, and is the least in the United States. The high regions of central and eastern Arizona have a cool and delightful summer climate. The winter is mild. Snow falls, but usually disappears in a few hours, except on the mountains. This region and a large district in the southeast have abundant rains. In the upper part of the Gila valley the rain-fall





THE GIANT CACTUS.

reaches thirty-three inches. Most of this water is brought by winds from the Gulf of California.

Vegetation.—Extensive and heavy forests of conifers, comprising pines, cedars, junipers, and firs, are found in the regions of greatest rain-fall—in the mountain districts of the middle and eastern parts of the territory.

The great San Francisco forest covers a tract about 350 miles long, by 30 to 100 miles broad. There are also immense districts in the middle and north-east, where the sides of mountains are covered with nutritious grasses which furnish unlimited pasturage. Of the remaining and by far the larger area of the territory, much the greater part is almost destitute of vegetation. In favorable places along the streams, iron-wood, mesquite, and cotton-wood are found, and upon the desert mesas, the sage bush, the prickly pear, and giant cactus.

Minerals.—Although the mineral treasures of Arizona are as yet but partly explored, it is already known that in variety and value they are not excelled by any equal area of the Pacific

Slope. Gold and silver mining is the leading industry of the territory. The chief silver belt is a very large region, and a much larger district abounds in copper ores of remarkable richness. There are extensive deposits of salt. The coal-fields are of inestimable value, and occupy more than 30,000 square miles. The best-known beds are in the northeast, where some of the veins are over twenty feet in thickness.

Agriculture.—Only a small proportion of the land of Arizona can be profitably cultivated.

This is the result of the light rain-fall in some parts and the extraordinary character of the drainage in others. Nearly the whole arable land lies in the lower parts of the chief river valleys, especially those of the Gila and its branches, the Salt and the Santa Cruz. Even here and in the park-like valleys of the high eastern border the land must be irrigated by canals or artesian wells. Yet so extensive is the territory that these various arable lands amount to several millions of acres. An irrigating canal 41 miles long has been recently constructed from the mouth of the Verde on Salt River to Cave Creek, a point some 17 miles north of the Gila. It will convert an unproductive desert into a rich agricultural region. The agricultural products vary with the climate, and range from the grain, roots, and fruits of the middle-temperate to those of sub-tropical regions.

Commerce.—For much of the territory the means of communication are as yet scanty. The Colorado is the only navigable stream. Steamers and barges ascend to Hardyville, and occasionally to Callville, at the mouth of the Grand Cañon. It is the chief trade route for a great mineral district. The Southern Pacific, and the Atlantic and Pacific railroads, cross the territory, and connect a large region with the Pacific ports and the markets of the eastern parts of the Union. The leading towns and the military stations are connected with the Colorado and the railroads by a system of stage routes.

Political Organization.—The territory comprises ten counties.

The following are among the chief towns, but many additions and great changes are rapidly made by new and increasing immigration.

TUCSON, in Pima County, on the Southern Pacific Railroad, is the largest town in Arizona, and one of the oldest in the United States.

It is in the fertile Santa Cruz valley, the best-known part of Arizona, and is the centre of many stage routes. It has an extensive and varied trade, both with the territory and with northern Mexico. Cattle are an important item. The altitude of Tucson is 2500 feet. Population, 6994. Tubac, in the same county, is an old settlement.

PRESCOTT, in Yavapai County, is the capital of the territory. It is well laid out and well built. Its altitude, 6318 feet, gives it a cool climate. Light snows fall in the winter, but not enough for sleighing. Prescott lies in a small valley surrounded by high ranges which contain good grazing and timber lands. It has a large trade. Population, 1836.

TOMBSTONE, the county seat of Cochise County, is surrounded by rich silver-mines. Since little or no snow falls here, the mines can be worked during the entire year. The mills for crushing the ore are situated on the San Pedro, ten miles distant. Cattle-raising is also a profitable industry in the neighborhood of Tombstone. Population about 4000.

YUMA, the chief town of Yuma County, is on the Colorado, 178 miles from its mouth, and 20 miles from the Mexican boundary. The Southern Pacific Railroad here crosses the Colorado. The town has an extensive business with the mining districts both by the river and the railroad. Population, 1200.

In the same county, and on the Colorado, are Castle Dome Landing, a port of shipment for ores of silver and copper, and Ehrenberg, the freight depot of the mining districts near Wickenburg and Prescott.

GLOBE, the county seat of Gila County, is situated in the centre of an important silver and copper mining district of the same name, east of the Pinal Mountains. Population, 704.

PHOENIX, in Maricopa County, is the business centre of Salt River valley and of neighboring important mining districts. Wickenburg, in the same county, is among the silver-mines. Population, 1708.

FLORENCE, in Pinal County, is the centre of a rich agricultural district in the valley of the Gila. Small streams of water are led through its streets, which are planted with shade trees. It has stamping-mills and furnaces, and an extensive trade with the mines. Population, 902.

Safford, in Graham County, on Gila River is a place of growing importance. Mineral Park, an important mining centre, and Hardyville and Aubrey, in Mohave County, are points of shipment on the Colorado.

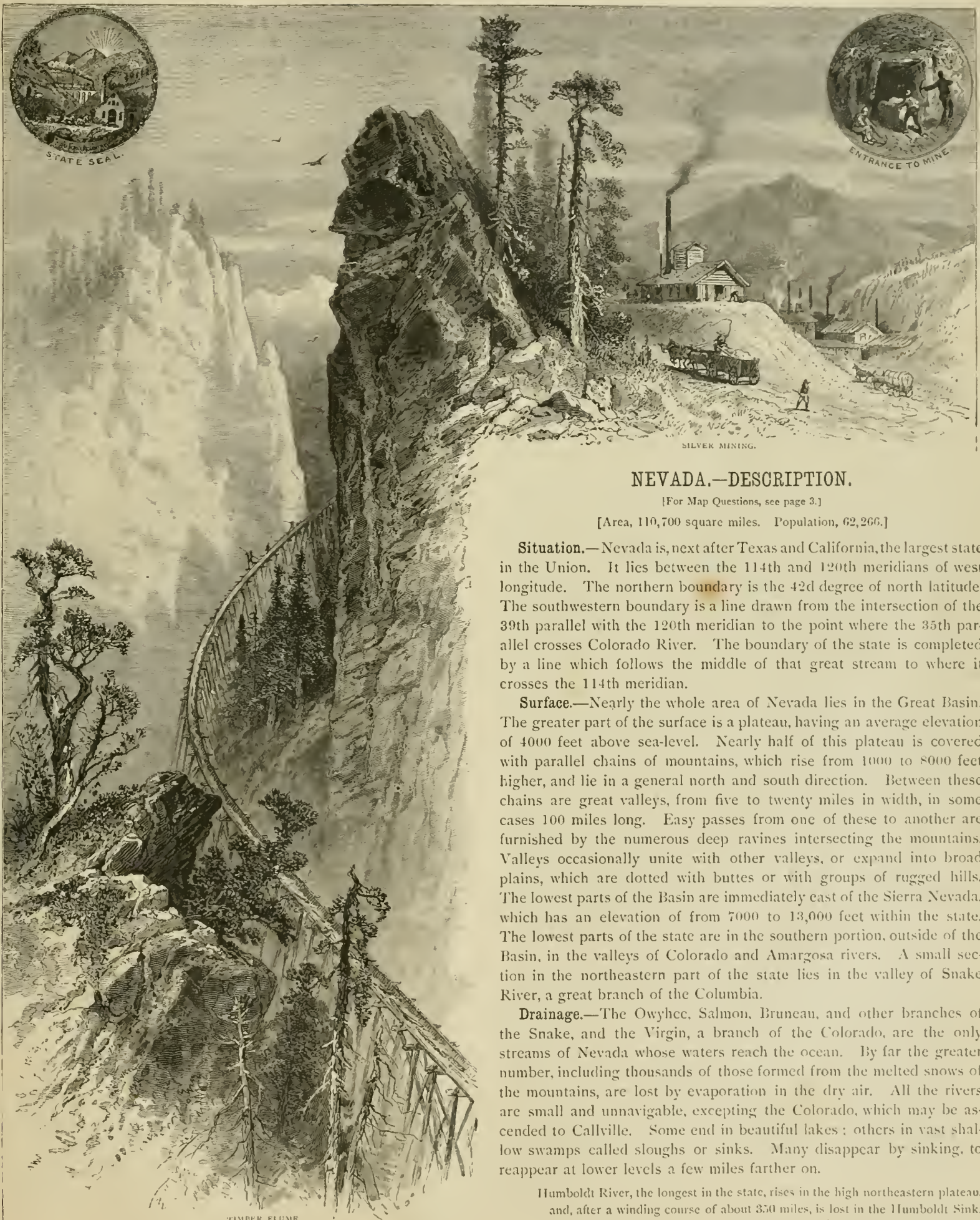
History.—The part of Arizona north of the Gila is a portion of the cession made by Mexico in 1848. The Gadsen Purchase, which includes the portion south of the Gila, was made in 1853. On the 24th of February, 1863, the territory was organized. The numerous hostile

savages and the difficulty of access long delayed the settlement of the country. Within a very recent period these obstacles have been removed, and the territory is rapidly increasing in population.



CAÑON OF SAN FELIPE.

Questions.—Describe the situation of Arizona. Its surface. Drainage. Climate. Vegetation. Minerals. What is said of its agriculture? Commerce? Describe the political organization. Describe Tucson. Prescott. Tombstone. Yuma. Globe City. Phoenix. Florence. Give an outline of the history of Arizona.



NEVADA.—DESCRIPTION.

[For Map Questions, see page 3.]

[Area, 110,700 square miles. Population, 62,266.]

Situation.—Nevada is, next after Texas and California, the largest state in the Union. It lies between the 114th and 120th meridians of west longitude. The northern boundary is the 42d degree of north latitude. The southwestern boundary is a line drawn from the intersection of the 39th parallel with the 120th meridian to the point where the 35th parallel crosses Colorado River. The boundary of the state is completed by a line which follows the middle of that great stream to where it crosses the 114th meridian.

Surface.—Nearly the whole area of Nevada lies in the Great Basin. The greater part of the surface is a plateau, having an average elevation of 4000 feet above sea-level. Nearly half of this plateau is covered with parallel chains of mountains, which rise from 1000 to 8000 feet higher, and lie in a general north and south direction. Between these chains are great valleys, from five to twenty miles in width, in some cases 100 miles long. Easy passes from one of these to another are furnished by the numerous deep ravines intersecting the mountains. Valleys occasionally unite with other valleys, or expand into broad plains, which are dotted with buttes or with groups of rugged hills. The lowest parts of the Basin are immediately east of the Sierra Nevada, which has an elevation of from 7000 to 13,000 feet within the state. The lowest parts of the state are in the southern portion, outside of the Basin, in the valleys of Colorado and Amargosa rivers. A small section in the northeastern part of the state lies in the valley of Snake River, a great branch of the Columbia.

Drainage.—The Owyhee, Salmon, Bruneau, and other branches of the Snake, and the Virgin, a branch of the Colorado, are the only streams of Nevada whose waters reach the ocean. By far the greater number, including thousands of those formed from the melted snows of the mountains, are lost by evaporation in the dry air. All the rivers are small and unnavigable, excepting the Colorado, which may be ascended to Callville. Some end in beautiful lakes; others in vast shallow swamps called sloughs or sinks. Many disappear by sinking, to reappear at lower levels a few miles farther on.

Humboldt River, the longest in the state, rises in the high northeastern plateau, and, after a winding course of about 350 miles, is lost in the Humboldt Sink, a shallow lake or marsh of vast extent, its waters brackish with salt and soda.

Carson River, a large stream from the Sierra Nevada, loses its waters in the Carson Sinks or Lakes, which are similar to the Humboldt Sink. Tahoe is a fine mountain lake on the western border and partly within the state. It is 22 miles long by 14 broad, and more than 1800 feet deep. Its surface is 6202 feet above the sea. It is drained by Truckee River, whose waters, after a course of about 90 miles, flow into Pyramid Lake. This is another fine sheet of water, 35 miles long by 15 broad, and 3000 feet deep; it is named from one of its islands, a singular pyramidal rock about 600 feet high. Walker River, another large stream from the Sierra, flows into Walker Lake. All the streams mentioned are largely used in irrigating the fertile valleys through which they flow.

Climate.—The climate is remarkably healthy, and for so elevated a region singularly mild and equable. Extremes of heat and cold are unknown. There is little dew and no malaria. Snow falls deep upon the mountains, but is very light in the valleys, notwithstanding their elevation. Thunder-storms and cloud-bursts sometimes occur in the eastern parts in July and August, and sand-storms and sand-pillars are common on the plains. The nights are cool in summer in all parts of the state.

Forests.—The eastern slopes of the Sierra Nevada lie partly within the limits of the state, and are its chief lumber region. They are covered with heavy forests of pine, spruce, fir, and other trees, which are rapidly disappearing under the great demand for mining, building, fuel, and other purposes. White Pine Mountains and some other ranges in the east have a considerable amount of good timber.

Minerals.—Mining is the great interest of the state. In value and variety of minerals, vastness of deposits, and amount of bullion products, especially of silver, Nevada has surpassed all other countries. Veins of gold and silver of greater or less value are found in nearly every mountain range in the state. The famous Comstock lode of Mount Davidson, in Storey County, is remarkably rich in a mixture of gold and silver, in proportion of forty-three per cent. of the former to fifty-seven per cent. of the latter. Two of the mines of this lode together furnished more than \$100,000,000 in the five years from 1874 to 1878 inclusive, and from their opening in 1859 to 1885 the Comstock mines have yielded more than \$300,000,000. Among other rich mines in the state are those in Esmeralda, Lander, White Pine, Nye, and Lincoln counties. Since 1858 Nevada has produced more than \$600,000,000 in gold and silver. In proportion to the population, no other community has ever furnished a product so great in value in so short a time. Other minerals besides gold and silver are of great importance. Eureka, in Eureka County, and Tybo, in Nye County, are the centres of the two chief lead districts of the United States, the lead here annually produced being nearly equal in value to the combined annual production of the Missouri, Iowa, and Illinois lead regions.

Copper-bearing veins of great size are found in Washoe, Esmeralda, Humboldt, and Elko counties, and immense masses of iron ore in Nye and White Pine. Salt in extraordinary abundance is found in Humboldt, Churchill, Esmeralda, Lander, White Pine, and Lincoln counties. It is found in beds spread over the surfaces of low valleys, or in crystalline masses beneath the surface, and in solid blocks in the mountains. One of these deposits in Esmeralda County covers about fifty square miles. Immense deposits of borax and carbonate of soda are found in Churchill and Esmeralda counties. Nevada produced nearly 24,000,000 pounds of borax from 1875 to 1883.

Among other valuable minerals found in the state are sulphur, antimony, arsenic, manganese, graphite, gypsum, asbestos, mica, cinnabar, nickel, cobalt, and alum; kaolin and other clays; building-stone, marble, and glass materials. Coal has been found in White Pine County.

The state abounds in springs, cold and hot. The hot springs at Carson, Genoa, Steamboat, and Elko are favorite resorts for invalids. Steamboat Springs, in Washoe County, occupy a rocky mound which is half a mile long and a quarter of a mile wide, and rises fifty or sixty feet above the valley. Their temperature varies greatly, that of the hottest spring being 204° F. They emit a sound like that of a boiling cauldron.

Animals.—Of the wild animals the principal mammals are the mountain sheep, antelope, bear, wolf, and coyote; the principal birds are the grouse, quail, and prairie-chicken. Trout abound in all the streams, and salmon are found in the branches of the Owyhee. Other valuable fishes have recently been introduced into some of the lakes and rivers.

Agriculture.—All the cereals, fruits, and vegetables adapted to the latitude can be raised in abundance, and are of superior quality. Many of the valleys, particularly those of Truckee, Carson, and Humboldt rivers, contain a large area of land adapted to agriculture. Owing, however, to the dryness of the climate, irrigation by mountain streams and artesian wells must always be the chief dependence of the tillage of the state, and is already largely practised, especially in Washoe, the leading agricultural county. The sage-brush grows almost everywhere, from the lowest valleys to the mountain-tops, and when of large size and luxuriant growth indicates the best quality of soil and more than the ordinary amount of moisture.

The cattle-ranges are some of the finest in the world. The many nutritious grasses not only form excellent summer pasturage, but possess the property of curing themselves into a natural hay, which, with certain varieties of the sage-brush, furnishes an excellent and abundant supply of winter food for cattle, horses, and sheep. San Francisco and other cities of California are largely dependent upon Nevada for the supply of beef.

The principal agricultural products are wheat, oats, potatoes, barley, hay, Indian corn, wool, butter, and cheese. The specially excellent quality of the first three of these makes them important articles of export.

Commerce.—Nevada is crossed from northeast to southwest by the Central Pacific Railroad, a great trans-continental line. This road, with a network of telegraph wires, furnishes the chief connection with the commerce and trade of the rest of the world.

Four other roads branch from this main line, namely: the Virginia and Truckee road from Reno, through Carson and Gold Hill, to Virginia City, 52 miles; the Nevada and California Railroad, narrow gauge, from Reno to Moran, California, 37 miles; the Eureka and Palisade road, narrow gauge, from Palisade to Eureka, 90 miles, with a short branch to Ruby Hill; and the Nevada Central, from Battle Mountain to Austin, 93 miles.

Besides these are the Carson and Colorado Railroad, narrow gauge, from Mound House, on the Virginia and Truckee Railroad, to Keeler, on Owen's Lake, California, 298 miles; length of line in California, 192 miles; and the Lake Tahoe Railroad, from Lake Tahoe to the summit of the east ridge of the Sierra Nevada, 10 miles, where it connects with a great V flume which carries timber to Carson Valley. The long valleys and numerous passes make it easy to construct both railways and wagon roads, and stage lines connect the railways with all the mining districts.

Political Organization.—The chief executive officers of the state are a Governor, Lieutenant-Governor, Secretary of State, Treasurer, Controller, Surveyor-General, Attorney-General, and Superintendent of Public Instruction. Each of these officers is elected for a term of four years.

The legislative department consists of a Senate of twenty members, elected for four years, and an Assembly of forty members, elected for two years.

The judicial power is vested in a Supreme Court, District Courts, and Justices of the Peace. All the judges are elected.

Nevada is entitled to two Senators and one Representative in Congress, and therefore has three electoral votes.

The state comprises fourteen counties. The chief towns are the following:

VIRGINIA CITY, in Storey County, is the largest city in the state, and the most important mining town in the world. It is built along the Comstock lode, on the precipitous eastern slope of Mount Davidson, at an elevation of about 6100 feet above the sea. The discovery of the silver-bearing rock in 1859 quickly led to the formation of the state of Nevada out of an unknown wilderness. Virginia City soon grew to be a large town, but afterwards declined, until the discovery of the chief treasures of the Comstock in 1870. It then rapidly increased in population and wealth. The greater part of the inhabitants are employed in the deep mines that are under and near the city. The product of these mines varies in amount, and has been as high as \$30,000,000 in a single year. Population, about 10,000.

In the vicinity is the Sutro Tunnel. This is a remarkable engineering work, intended to drain, ventilate, and extend the mines of the Comstock lode. A tunnel nine feet wide and seven feet high is cut through solid rock, commencing at Sutro, 150 feet above Carson River, in the Carson River Valley. It has a length of 20,489 feet in a direct line towards the base of Mount Davidson, with 9000 feet of lateral branches. The tunnel discharges an average of 6,900,000 gallons of water every 24 hours. It connects with the 1640-foot level of the Savage mine of the Comstock lode. The cost of construction was \$5,000,000.

CARSON, in Ormsby County, on the Virginia and Truckee Railroad, is the capital of the state. It is pleasantly situated in Eagle Valley, four miles from Carson River, and in the midst of a fertile section. The lofty, snow-crowned Sierra Nevada, its slopes green with pines, rises abruptly on the west, and the broad valley of the Carson stretches away to the north. The Capitol and the United States Branch Mint are large and beautiful buildings. Population, about 4000.

GOLD HILL, in Storey County, is on the Virginia and Truckee Railroad, one mile south of Virginia City, and on the line of the Comstock lode. It is built in a deep cañon. There are many important mines within the limits of the town, and many quartz mills. Gold Hill and Virginia City are supplied with an abundance of pure water from the Sierra Nevada by an extraordinary piece of hydraulic engineering. From Lake Marlette, in the mountains, the water is brought by a large flume to the upper end of a strong iron pipe, seven miles in length. Through this it descends and ascends the walls of twelve steep cañons, and finally descends and crosses a deep gorge, then ascends the cliff on its eastern side to the height of 1540 feet, whence a second flume conducts it to a reservoir for distribution. It furnishes about two millions of gallons a day. Population, about 3000.

Austin—in Lander County, terminus of Nevada Central Railroad. Centre of trade of Reese River mining district. Many silver-mines. Railroad to Battle Mountain. Population, 2000.

Battle Mountain—in Lander County, on Central Pacific Railroad, at junction of Reese River Valley with Humboldt Valley. Depot for a large number of mining districts. Railroad to Austin. Population, 400.

Candelaria—in Esmeralda County, on Carson and Colorado Railroad. A rich mining district. Town supplied by water brought from the White Mountains, 21 miles. Population, 521.

Carlin—in Elko County, on Central Pacific Railroad; its machine shops located here. Copper mines in vicinity. Good grazing country. Population, 500.

Elko—in Elko County, on Central Pacific Railroad and north bank of Humboldt River. In the heart of a rich grazing country. Depot of supplies for many mining districts. Two flouring mills. A number of medicinal hot springs in the vicinity. Population, 1200.

Eureka—in Eureka County. Centre of one of the richest mining districts. Ores, chiefly galena, bearing silver, gold, and copper. Railroad to Palisade. Large trade; surrounded by good grazing country. Eureka has suffered severely from fires and floods. Population, 4207.

Genoa—in Douglas County. At the base of the Sierra Nevada. Settled in 1850, and the oldest town in the state. Centre of a fine farming region. Population, 400.

Hawthorne—in Esmeralda County. At the foot of Walker Lake, and on the Carson and Colorado Railroad. Important distributing

point for Inyo and Mono counties, California. Many rich mining districts in the vicinity. Population, 500.

Pioche—in Lincoln County, in the Ely mining district, famous for the richness of its silver-bearing veins. Fine farms in the vicinity. Population, 500.

Reno—in Washoe County. Important depot and shipping point on the Central Pacific Railroad, and terminus of the Virginia and Truckee, and of the Nevada and California railroads. On Truckee River, at base of Sierra Nevada. Centre of the best farming region of the state. Site of the State University. The town has been twice destroyed by fire. Population, 3500.

Ruby Hill—in Eureka County, two miles from Eureka. Rich mining district. Population, 1500.

Tuscarora—in Elko County, three miles from Owyhee River. In the midst of a rich mining district, some good agricultural and grazing lands in the surrounding country. Population, 600.

Wadsworth—in Washoe County, on Central Pacific Railroad. Shipping point for Churchill County, and for Pyramid Lake, Indian Reservation. About 100 tons of trout are shipped from here every winter. Central Pacific machine shops and car repair shops are located here. Population, 600.

Winnemucca—in Humboldt County, on the Central Pacific Railroad, and Humboldt River. Centre of trade to mining towns and agricultural valleys, and to the principal towns in southwestern Idaho. Arable land along the river. An important point for wool and cattle. Extensive workshops of Central Pacific Railroad. Population, 1200.

Among other places of importance are Aurora, Belleville, Belmont, Cherry Creek, Columbus, Dayton, Empire, Glenbrook, Grantsville, Hamilton, Lewis, Lovelocks, Palisade, Silver City, Stillwater, Toano, Wabuska, Wells, and Wellington.

Education.—Educational facilities are as complete and as far advanced as could be expected in a sparsely settled state. The State Board of Education, consisting of the Governor, Superintendent of Public Instruction, and the Surveyor-General, prescribes the text-books and course of study, and grants diplomas and certificates to teachers. A County Superintendent of Public Schools is elected in each county, to serve two years. A Board of School Trustees in each district has direct control and supervision of the schools. The law requires that the schools shall be kept open at least six months in the year, and that all children between eight and fourteen years of age shall attend school at least sixteen weeks in each year.

The schools are divided into primary, grammar, and high schools. The State University is located at Reno, and is under supervision of a Board of Regents, elected by the legislature. In addition to the higher branches of an English education, instruction is given at the university in metallurgy, mining, and assaying.

History.—Nevada is a part of the extensive territory ceded to the United States, in 1848, at the close of the Mexican War. It formed a part of Utah until March 2, 1861, when Congress established it as a separate territory. After various additions to its limits, it was admitted as a state on the 31st of October, 1864.

The first settlements within the limits of the state were made by Mormons, in 1848, in Carson, Eagle, and Washoe valleys. In 1849 gold was found near Dayton, in Lyon County, and the search thus stimulated led to the discovery, in 1859, of the rich silver-bearing ledge now famous as the Comstock lode. A long-continued mining excitement followed, and led to extensive explorations of previously unknown regions. Thus were found the rich mines of Esmeralda, Humboldt, Reese River, Pahranaagat, and White Pine. Gold and silver were discovered in Aurora in 1860; in Austin in 1862; in Eureka in 1864. Numerous well-travelled roads now lead through most parts of the state; and cities and towns, farms and mining camps, exist where recently there was only a silent and barren wilderness.

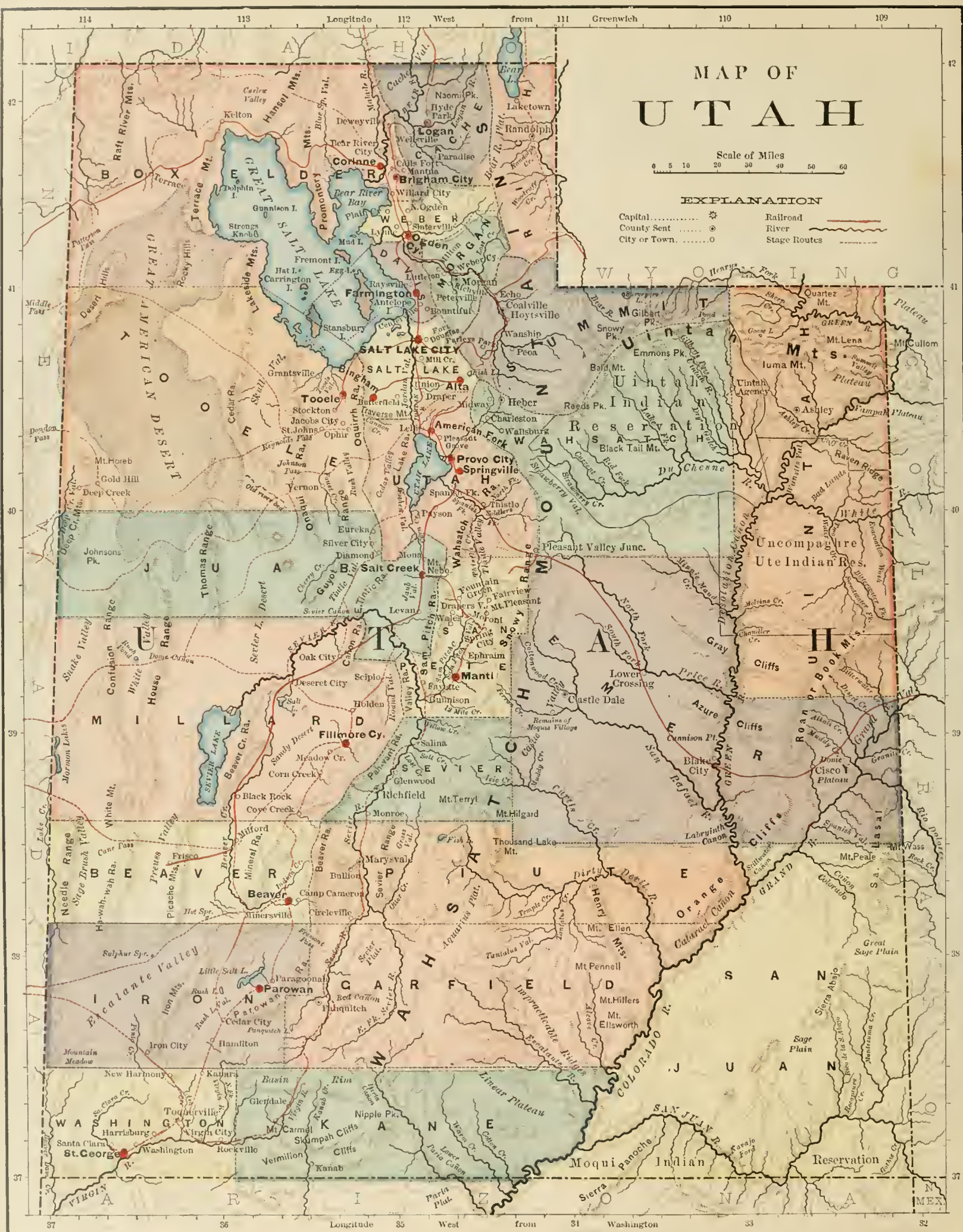
The discovery of the Comstock lode was only second in importance to the discovery of gold in California eleven years before, and determined the route and hastened the construction of the Central Pacific and Union Pacific railroads, which formed the first great trans-continental highway. The bullion yield of the Comstock lode is supposed to have exerted a great influence on the monetary system of the civilized world. The production of bullion in Nevada not only greatly assisted the embarrassed finances of the United States at a critical period of our national history, but also largely stimulated and aided the commerce of the world.

Questions.—Describe the situation of Nevada. Its surface. Drainage. Climate. Forests. Minerals. Name the chief localities of silver, gold, lead, copper, salt. Other minerals. Name the principal animals. What is said of agriculture? Commerce? Describe the political organization. Describe Virginia City. Carson. Gold Hill. What is said of education? Give an outline of the history of Nevada.

NOTE.—The elevation of some of the mountains, lakes, towns, etc., in the state are given below:

Peaks: Jeff. Davis, 13,075 feet; Grafton, 10,964; Charleston, 10,874; Rose, 10,820; Genoa, 9155; Quartz, 8700; Tohakum, 8174; Olcott, 7974; Ophir Hill, 7861; Spanish, 7401; Gass, 6200.—**Mountains**: Prospect, 9600; Timpah-ute, 9600; Como, 9017; Grant, 9000; Granite, 8990; Raw, 8403; Zion,

8300; Peavine, 8281; Davidson, 7941; McClellan, 7531; Butler, 7525; Emma, 6139.—**Lakes**: Tahoe, 6202; Washoe, 5045; Pyramid, 3818; Winnemucca, 3820; Sink of the Humboldt, 3929.—**Towns**: Belmont, 8092; Ruby Hill, 7300; Tuscarora, 7200; Austin, 6500; Eureka, 6500; Virginia City (C Street), 6100; Pioche, 5912; Elko, 5063; Carson, 4630; Reno, 4497; Winnemucca, 4332; Genoa Hot Springs, 4702; Mouth of Sutro Tunnel, 4466.







QUESTIONS ON THE MAP OF ALASKA.

What water north of Alaska? What country east? What water south? What sea on the west? What strait? What peninsula in the southwest? What islands southwest of the peninsula? Which is the most westerly of the Aleutian Islands? About what is its longitude? Is Attoo in the western hemisphere? What islands are in Behring Sea? What island southeast of the peninsula? What island east of Kodiak Island? What volcano in the southern part of Alaska. What mountain ranges in Alaska? Name the highest peaks of the Coast Range. What great river in Alaska? Into what water does it flow? What town on Baranoff Island? What town on Kodiak Island?

QUESTIONS ON THE MAP OF UTAH.

What territories north of Utah? What state on the east? What territory on the south? What state on the west?

Which is the chief mountain range of Utah? What mountains in the northeastern part? What mountains in the eastern part? What desert in the northwestern part?

Which is the chief river of Utah? What two rivers form the Colorado? What branch of the Colorado in the southeastern part of the territory? What river in the southwestern part?

What lake in the northwestern part? What river flows into it from the north? What lake southeast? What river connects Great Salt Lake and Utah Lake? What lake southwest of Utah Lake? What river flows into it?

Name the counties of Utah. What counties border on Great Salt Lake? In what county is Utah Lake? Sevier Lake? What counties are crossed by Green River? By Grand River? By the Colorado? What counties border on Arizona? Nevada? Idaho? Wyoming?

What city is the capital? What five towns are north of Salt Lake City? What town southeast? What two towns southwest? What three near Utah Lake? What two south? What town east of Sevier Lake? Southeast? What two southwest of Beaver?

QUESTIONS ON THE MAP OF IDAHO.

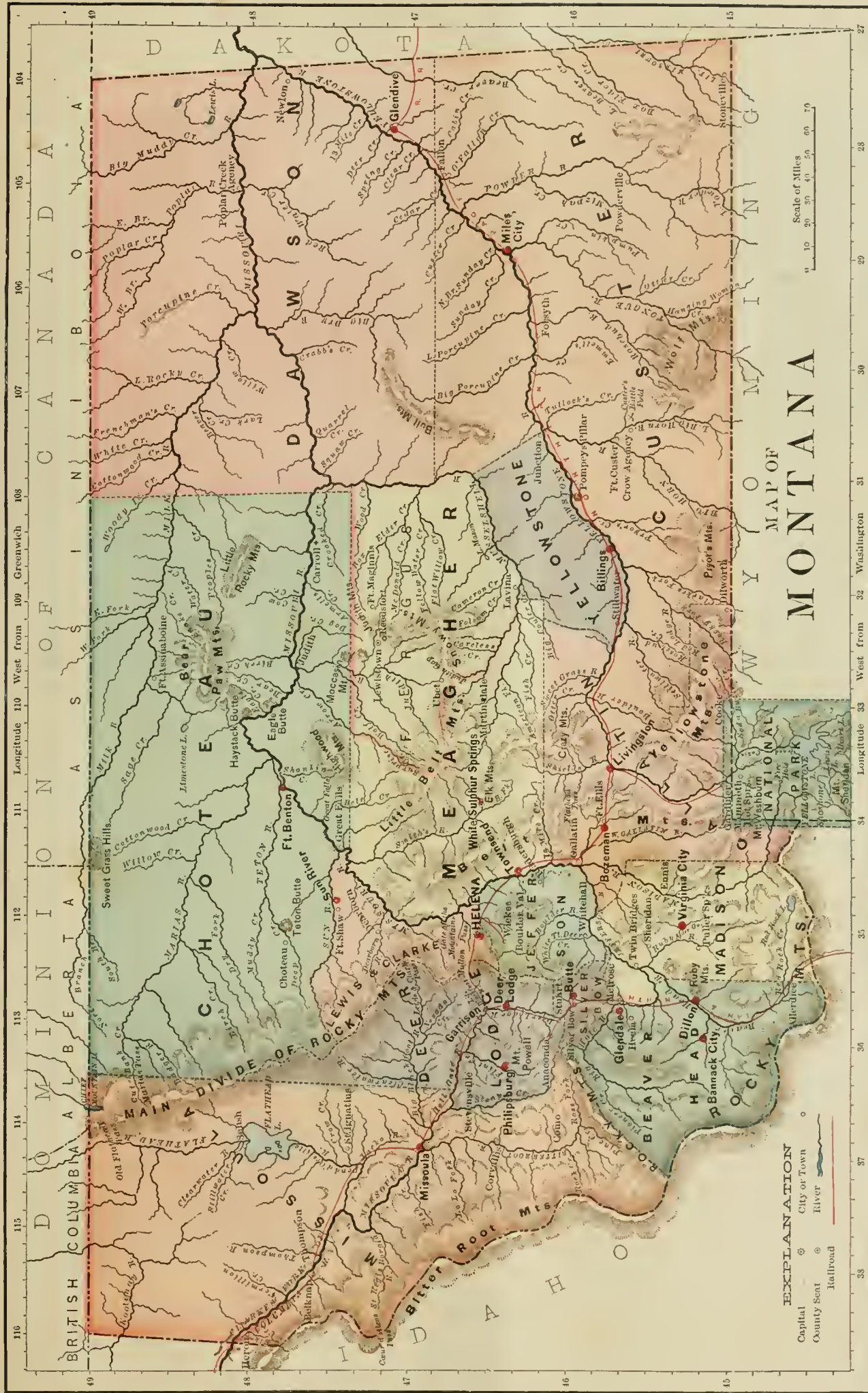
What country north of Idaho? What territories on the east? What park? What state and what territory on the south? On the west?

Name the chief mountain ranges in Idaho. What river crosses the southern part of the territory? Name two branches of Snake River? What lake in the southeastern part of the territory?

Name the counties of Idaho. What county in the north? What counties border on Montana and Wyoming? On Nevada and Utah? On Oregon and Washington? What large county north of Snake River? What small county northwest of Alturas County?

What is the capital? What three towns northeast of Boise City? What town southwest? What town at the junction of Snake and Clearwater Rivers? What two towns southeast? What two towns in the southeastern part of the territory?

Name four mountain ranges in Yellowstone National Park. Name the two chief rivers. Through what large lake does the Yellowstone River flow? Through what cañon?



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QUESTIONS ON THE MAP.

What parallel forms the northern boundary of Montana?
 What meridian the eastern? (104° West.) What parallel forms most of the southern boundary? To what other boundary meridian? (111° West.) Along the crests of what two ranges does the southwestern boundary pass? What meridian completes the western boundary? (116° West.) What three divisions of Canada border on Montana? What three territories of the United States? What noted park lies partly in Montana?

What two great rivers rise in the western part of the territory? Which of these flows to the Pacific? Name its chief branches in Montana. In what general direction do they flow? What two great mountain chains nearly enclose the valley of Clarkes Fork and its branches? Name the chief branches of the Missouri in Montana. In what general direction do they flow? What mountains between Milk River and the Missouri? Between the Missouri and the Yellowstone? Between Big Horn and Tongue rivers? Name the chief branches of the Yellowstone.

What transcontinental railroad passes through Montana? Through what river valleys? What railroad enters Montana near the southwest corner? (*Utah and Northern*—*Idaho Division of Union Pacific*.) Name the chief towns on the Northern Pacific Railroad. Between this railroad and Canada, What towns of Montana are on or near the Utah and Northern Railroad? At what town does this road join the Northern Pacific? In what part of the territory are most of the large towns?

SPECIAL GEOGRAPHY OF MONTANA.

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HELENA.

MONTANA.—DESCRIPTION.

[Area, 145,310 square miles, or 92,900,000 acres. Population in 1880, 39,159; in 1885, 85,000 (estimated). Mean altitude, 3900 feet. Greatest length (E. to W.), 510 miles; greatest width (N. to S.), 310 miles.]

Surface.—Two fifths of Montana are a plains country, three fifths mountainous. The eastern and northern portions are rolling plains, rising from an altitude of 2000 feet at the mouth of the Yellowstone to about 4000 feet at the base of the mountains, occasionally broken by low ranges of hills or isolated groups of mountains, or by the deeply worn valleys of the streams.

The southern and western portions are filled with numerous mountain ranges, belonging to the Rocky Mountain system, with a general trend west of north, and enclosing a number of valleys or parks with an average altitude of 3500 to 5000 feet. There are three principal systems or ranges:

1. The main range, or continental water-shed. This forms the southern boundary to the line between Beaverhead and Missoula counties, where it turns abruptly east nearly a hundred miles and then resumes its usual north-northwestern course to the British boundary-line. It separates the waters of the Missouri from Clarkes Fork of the Columbia. When making its sudden eastern bend, its course is continued by
2. The Bitter Root, or Cœur d'Alène Mountains, which form the western boundary of Montana, and separate the waters of Clarkes Fork from those of Lewis Fork or Snake River.
3. The eastern system leaves the main range northwest of Yellowstone Lake, and extends under the name of the Gallatin Mountains to the southeastern corner of Gallatin valley. It is continued from here, usually as two parallel ranges, under the names of Bridger, Great and Little Belt, and Highwoods Mountains, to the great bend of the Missouri opposite Fort Benton. These ranges separate the waters of the Upper Missouri from those of the Yellowstone, Musselshell, and Judith rivers.

The extreme southern parts of Montana are penetrated by spurs of the Big Horn Mountains, which send a high, rugged range through the northeast corner of the National Park along the right bank of the Yellowstone, terminating at the big bend of this river opposite Livingston. This range and the Crazy Mountains, an isolated group immediately north of the Yellowstone, have the highest peaks in Montana (exceeding 11,000 feet), and are of a truly Alpine character. Among the isolated mountain groups are the Pryor and Wolf Mountains, south of the Yellowstone; the Bull, Snowy, Judith, and Moccasin Mountains, between the Yellowstone and Missouri; and the Bear's Paw and Little Rocky ranges, north of the Missouri. Numerous minor ranges extend between the main range and the Bitter Root Mountains, and divide the western part of the territory into separate valleys. South of the Hellgate River these ranges run from south to north. North of that river their general trend is from east to west.

Descriptive.—The plains are a grassy table-land, sloping gently north and east. The surface is generally rolling, except where broken by small mountain groups or isolated "buttes." The water-courses are few, and all which are not fed by the almost perennial snows of the high mountains go dry in summer. The soil is friable, and the rocks soft and easily eroded, so that the streams run usually in valleys 200 to 800 feet deep. The escarpment of the plateau on the edge of these valleys is exposed to the continual wear of the water, frost, and wind, and assumes in many places the appearance of "bad lands," but this extends back from the rivers a few miles only.

The mountains of Montana are low compared with those of Colorado and New Mexico, and are crossed by numerous low passes. These make travel and communication easy between the different basins, although the valleys are generally mountain locked, the drainage finding an outlet through narrow cañons. The scenery is in many places grand, in others very beautiful and attractive. Especially rugged and magnificent are the ranges east of Flathead Lake, where true glaciers are found.

Drainage.—That part of Montana lying on the Pacific slope is drained by Clarkes Fork of the Columbia and its tributaries. This river is first called the Deer Lodge. From the junction of the Little Blackfoot to the mouth of the Big Blackfoot it goes under the name of the Hellgate. Thence to the junction of the Flathead it is called the Missoula, and here only assumes the name of Clarkes Fork. Its character is throughout that of a bold, rapid mountain stream, falling nearly 3000 feet in the 400 miles of its course from Deer Lodge to the Pend d'Oreille Lake. Its principal



YELLOWSTONE FALL.

tributaries are, from the left: Flint Creek, Rock Creek, and Bitter Root, from the right: Little Blackfoot, Big Blackfoot, and Flathead.

The Kootnai, a large tributary of the main Columbia, crosses the extreme northwestern corner of Montana. The Missouri and Yellowstone drain the Atlantic section. The Missouri is formed by the "Three Forks," the Jefferson, Madison, and Gallatin, all heading in the extreme southern part of the territory, the farthest sources of the two latter being in the National Park within the boundary of Wyoming. The Jefferson is formed by the Big Hole, Beaverhead, and

Ruby: the Gallatin by the East and West Gallatin. The Missouri runs north and northeast to within 70 miles of the boundary, when it is entirely clear from the mountains and takes an easterly course, which it keeps until it leaves Montana. It is navigable for light-draught steamboats to its head; but the continuity of navigation is broken by the great falls, about 25 miles above Fort Benton. These falls are a series of cascades and rapids, extending 10 miles, in which the river falls about 400 feet. The principal fall is 90 feet. From its head to the mouth of the Yellowstone, about 1000 miles, the river falls 2000 feet. Its principal tributaries are, from the right: Sixteen Mile, Deep Creek or Smith River, Judith, and Musselshell; from the left: Prickly Pear, Sun, Teton, Marias, and Milk rivers. These are all clear, bold streams in the mountains, but those which enter the plains assume there a different character. Their waters become impregnated with alkali, and they lose volume during the dry season by evaporation and sinking of the water, so that the Judith, Musselshell, and Milk rivers are often entirely dry at their mouths in August and September. Just east of the boundary the Missouri receives its largest tributary—the Yellowstone. This river rises in the Shoshone Mountains, south of the Yellowstone Lake. Emerging from the lake it has two great falls, 140 and 400 feet high, and traverses the National Park in a remarkable cañon, 2500 feet deep. At the foot of this cañon it enters Montana with a northwest and north course, and through three additional cañons finally breaks its way through the mountains, when it turns abruptly east into the plains, and flows rapidly in an east and northeast course to its junction with the Missouri. While the bed of the Missouri is mostly sandy and muddy, that of the Yellowstone above Powder River is gravelly, and free from the sand-bars which seriously obstruct the navigation of the former; but the rapidity and shallowness of the Yellowstone are still more formidable obstacles, and it is barely navigable during high water to the mouth of Pryors Creek. From Livingston to its mouth, about 500 miles, it falls nearly 2500 feet. Its principal tributaries are, from the left: Shields River, Big Timber, Sweet Grass, and the Great and Little Porcupine; from the right: East Fork, Boulder, Stillwater, Clarkes Fork, Pryors, Big Horn, Rosebud, Tongue, and Powder rivers.

Lakes and Springs.—The only considerable lake is Flathead, in northern Missoula County; but the mountains are full of beautiful tarns and lakelets. Warm and medicinal springs are abundant. A few of the best known are located as follows: on Lulu Fork in Missoula County, on Hot Spring Creek in Deer Lodge, on Ruby River in Madison, on Ten Mile River near Helena in Lewis and Clarke, on the North Fork of Sun River in Choteau, White Sulphur Springs in Meagher, Hunters and Matthews Springs in Gallatin.

Climate.—The climate shows great extremes and frequent sudden variations, but is not nearly so severe as might be expected from the great latitude and altitude. The cold waves from British America are met and often driven back by a warm west wind, the so-called "chinook." This air-current leaves the Pacific laden with moisture. This is discharged as rain and snow on the intervening mountains, and when the current reaches the valleys of Montana it is warm and dry, and frequently melts all the snow in mid-winter. Its tempering influences are not so strongly felt in the extreme eastern and northern sections. The greatest rain-fall is in April, May, and June. The total varies in different sections from 12 to 25 inches. The summer and fall are dry and pleasant, and throughout the year Montana is a land of sunshine. The average yearly temperature is from 42° to 48°.

Vegetation.—The plains are nearly treeless, except a scanty fringe of cottonwood and willows along the larger streams. The scattered mountain groups furnish, however, a tolerable supply of fuel and lumber. The mountain ranges are all well timbered with fir and pine, and in Missoula and parts of Deer Lodge counties large tracts are covered with valuable forests of different species of evergreens, which here attain a very great size. Of deciduous trees only a few species of cottonwood, poplar, and alder line the banks of the streams. Ash, elm, and box-elder grow in a few places along the lower Missouri and Yellowstone.

The wild grasses of the valleys and plains are very valuable. They are the so-called bunch and buffalo grasses, which are exceedingly nutritive. The summers are so dry that these grasses

mature very early, cure standing, and retain, when dry, all their strength. On the plains the vegetation has all the characteristics of dry, continental plains elsewhere. There is no continuous greensward. All vegetation grows in "bunches," showing the naked ground between the plants. The grass is short, and the flora comprises very few species. The vegetation is very luxuriant in the mountains, where moisture is abundant, and the wild flowers of early summer cannot be surpassed in beauty or variety. In the mountains and along all the streams wild fruits are abundant, such as strawberries, raspberries, currants, gooseberries, service-berries, buffalo-berries, huckleberries, and choke cherries. In the southeastern part grow wild plums and grapes.

Animals.—Game of all kinds is plentiful. The buffalo is nearly extinct; but there is still an abundance of grizzly and black bears, mountain lions, lynxes and wildcats, wolves and coyotes, moose and elk, deer and antelope, mountain sheep and goats, foxes, hares, beaver, otter, marten, squirrels, prairie-dogs and prairie-squirrels, and mountain rats, while the house rat is found only along the Missouri River. Game birds are also abundant: swans, ducks, geese, prairie chickens, sage-hens, blue and ruffed grouse. Nearly all the streams are well stocked with brook and salmon trout and whitefish, while sturgeon and catfish are found in the Missouri and lower Yellowstone.

Minerals.—Mining is the leading industry. The wonderful placer-mines of Alder, Last Chance, Confederate, and other almost equally rich gulches first attracted emigration to Montana. These are now mostly worked out, although the placer-mining product of Montana is still considerable. Quartz-mining, a more permanent industry, has largely taken its place. Especially has the silver product grown rapidly during the last few years. Gold and silver bearing leads are found in almost every mountain range, but as yet developed in comparatively few places, while the output of copper of the Butte group of mines is second only to that of the Lake Superior mines. Iron-ore of superior quality is found in many places, but is as yet undeveloped. Large quantities of lead are produced in the silver-bearing galena mines.

A very large part of Montana, east of the main range, is underlain with bituminous coal and lignite. Much of it is of inferior quality, although of great local importance as fuel; but in the Gallatin and Belt mountains are found considerable quantities of a true bituminous coal, suitable for coking. Its development is as yet hardly begun. Many other valuable minerals are found, but are still undeveloped. Limestone and excellent building-stones are found everywhere in the mountains.

Montana produced in 1883 nearly \$10,000,000 in gold and silver, and its product has since been largely increased. It stands third among the states and territories as a producer of precious metals, surpassed by Colorado and California only.

Agriculture.—Where not too gravelly, the soil of the valleys and plains is everywhere fertile; but irrigation is usually necessary for the successful raising of crops, although good crops of winter wheat are in some localities grown on the foothills without irrigation. This process is not a difficult or expensive

one in the river valleys, where water is readily available, and to these farming has as yet been chiefly confined. All the small grains and hardier vegetables are grown, and the crops cannot be surpassed in quantity or quality. While in the East the standard weight of oats per bushel is 32 pounds, the average weight of Montana oats is 40 pounds per bushel. The census report of 1880 puts its average yield of wheat ahead of all other states and territories. In 1884 about 4,000,000 bushels of grain were raised, mostly wheat and oats.

Stock-raising is one of the most important industries, and nearly all of the plains country is given up to it. On the large ranches cattle are not fed in winter, but run at large on the range; and the quality of the dry grass is so excellent that, in ordinary winters, the loss is very small. The winter climate of the plains is windy, so that the snow blows off, and



SCENE NEAR DOZEMAN.

cattle can nearly always get at the grass. Great attention is paid to the improvement of the cattle, and Montana beef brings a higher price in Chicago than the cattle of any other territory. Montana wool is also gaining the same creditable reputation, and sheep-raising is yearly growing in importance. Horses are extensively bred for exportation as well as home use, and the climate is peculiarly adapted to them. In 1884 there were in Montana about 800,000 head of cattle, 1,000,000 sheep, and over 100,000 horses and mules.

Manufactures and Commerce.—The only manufactories of any kind are flour-mills, saw and planing mills, breweries, and a few foundries. Water-power, available for manufacturing purposes, is abundant. The Northern Pacific Railroad goes through the centre of Montana from east to west, with branches to the northern boundary of the National Park and to Wickes, while the Utah and Northern Railroad enters the territory across the Pleasant Valley pass, and runs through southwestern Montana to a junction with the Northern Pacific Railroad at the mouth of the Little Blackfoot, with short branches to Butte and Anaconda. The Missouri and Yellowstone are important water highways.

The principal exports are: bullion and ores, live-stock and beef, hides and wool. Manufactured goods of all kinds, hardware, machinery, groceries, and fruits are among the most important imports.

Political Organization.—The executive officers are a Governor and a Secretary, appointed for four years by the President, with the approval of the Senate. An Auditor and a Treasurer are appointed by the Governor, with the approval of the Council, for a term of two years. The Supreme Court consists of three judges, appointed by the President and Senate, who also hold court in the various counties.

The territorial legislature holds biennial sessions, and consists of a Council of twelve members and a House of twenty-four members. These are elected by the people, as are also the Congressional Delegate, the County Judges, District Attorneys (to be replaced with County Attorneys in 1886), and various county officers.

There are 13 organized counties (a 14th, Fergus County, is formed from the northeastern part of Meagher; but the division is not to take place until after the election of 1886).

The principal cities and towns are:

HELENA, the capital, in Lewis and Clarke County, at the mouth of the famous Last Chance Gulch, near the head of the Prickly Pear Valley, at the base of the main range, is on the line of the Northern Pacific Railroad, which passes the summit of the Rocky Mountains through the Mullan tunnel, a few miles west of the city. It is the business centre of a large and important mining district, and has many fine brick and stone buildings, among which are the United States Assay Office and four public school-houses. It is lighted with gas and electricity. It is the financial centre of the territory. Population, 6500.

BUTTE, the most important mining centre in the United States, is situated on a branch of the Utah and Northern Railroad in Silver Bow County, on the western slope of the main range. Silver, copper, gold, and lead are the chief products of its mines. It contains many large mills, smelters, and reduction works, and has many fine buildings, among which are a handsome court-house and public-school building. It is lighted by electricity. With Walkerville and other contiguous camps its population is estimated at 9000.

FORT BENTON, in Chouteau County, at the head of navigation on the Missouri, 25 miles below the great falls, is the centre of a great agricultural and stock region. It was long the chief depot for the fur trade, and has still a large Indian trade. Population, 1000.

BILLINGS, in Yellowstone County, on the Northern Pacific Railroad, in a fertile section of the Yellowstone Valley, is an important shipping-point for cattle, and the trade centre of an extensive stock range. Valuable coal mines are found in the Bull Mountains, 25 miles distant. Population, 1300.

BOZEMAN, 12 miles west of the Bozeman tunnel on the Northern Pacific Railroad, in Gallatin County, at the head of Gallatin Valley, the richest agricultural district in Montana, is a beautifully located, well-built town, with a fine court-house and two large public school-houses. It has two flour-mills, and is an important shipping-point for grain, flour, and coal. The best-developed coal mines in Montana lie on the mountain slope between the town and the tunnel, and furnish large quantities of coal for use of the railroad and for shipment. Population, 2500.

DEER LODGE, on the river and in the county of the same name, is beautifully situated in the midst of a fertile valley of which it is the trade centre. It has a very handsome school-house and a Presbyterian college. The penitentiary is located here. Population, 1200.

DILLON, on the Beaverhead River, in Beaverhead County, on the Utah and Northern Railroad, is the trade centre of a rich farming and stock-raising region. Population, 1000.

LIVINGSTON, at the big bend of the Yellowstone River, in Gallatin County, on the Northern Pacific Railroad, at the junction of the National Park branch. Extensive car-shops are located here. Valuable coal mines are near the town. It is an important wool-shipping point. Population, 1500.

MILES CITY, at the mouth of Tongue River, in Custer County, on the Northern Pacific Railroad, is the centre of the most extensive stock range in Montana, and an important shipping-point. Population, 1500.

MISSOULA, at the mouth of Hellgate Cañon, in Missoula County, on the Northern Pacific Railroad, is the business centre of a large agricultural and lumber-producing section. Population, 1300.

VIRGINIA CITY, in the famous Alder Gulch, in Madison County, was formerly the capital. The gulch still produces considerable gold, and the town is the centre of a large mineral district. Population, 800.

WHITE SULPHUR SPRINGS, on Deep Creek, in Meagher County, is the trade centre of a fine agricultural district, and the most important sheep-raising section. Its mineral springs make it an important health resort. Population, 800.

Of the many smaller towns and trade centres the following may be mentioned: Anaconda and Philipsburg in Deer Lodge; Glendale in Beaverhead; Wickes in Jefferson; Gloster and Marysville in Lewis and Clarke counties are all flourishing mining camps. Bannack in Beaverhead is the oldest town in Montana, the seat of the first considerable mining camp. Stevensville, in Missoula County, is the trade centre of the upper Bitter Root Valley; in Meagher County, Townsend in the Missouri, and Lewiston in the Judith Valley are flourishing agricultural towns. Maiden, also in Meagher, is a promising mining camp. Gardiner, in Gallatin, is the

terminus of the Park branch of the Northern Pacific Railroad, with mines of excellent coal, and Glendive, in Dawson County, is a leading stock-shipping point.

MILITARY FORTS.—Troops are stationed at Forts Keogh, Custer, Ellis, Missoula, Shaw, Assiniboine and Maginnis. The military reservations embrace over 1,000,000 acres.

Indians.—The Indians of Montana number about 21,000. Their reservations are three: the Great Northern, embracing all the country north of the Missouri and Marias rivers; the Crow, south of the Yellowstone, and the Jocko, south of Flathead Lake. They cover an area of 46,000 square miles, or very nearly one third of the entire territory. The principal tribes are: the Blackfeet, Bloods, and Piegiens, all divisions of the same tribe; the Gros Ventres (Big-bellies), an offshoot of the Arrapahoes; the Assiniboines, a branch of the Sioux. All these live north of the Missouri. The Crows are also of the great Sioux or Dakota family. The Jocko reservation is occupied by a number of small tribes, among which are the Flatheads, Pend d'Oreilles, Kootnais, and Kalispels.

Education.—A territorial School Superintendent is appointed by the Governor, with the consent of the Council, for a term of two years. Each county elects a County Superintendent, and each school district elects three trustees, who have immediate charge of the schools of the district. The schools are creditable to so sparsely settled a country. As the school lands are not available until Montana becomes a state, the schools are supported altogether by local taxation; but the people have always shown a readiness to give them a liberal support.

History.—The Atlantic part of Montana was acquired by the United States by the Louisiana purchase of 1803. It became successively a part of the territories of Louisiana, Missouri, Nebraska, and Dakota. All questions as to title to the Pacific section were settled by the treaty of 1846 with England. This became part first of Oregon and later of Washington Territory. When the territory of Idaho was organized in 1863 it embraced most of the present Montana; but the territory of Montana was organized May 26, 1864, with its present boundaries. The first white men to visit Montana were French-Canadian traders, in 1743, searching for the great western sea; but it was first explored and mapped by Lewis and Clarke in their famous expedition to the Pacific in 1803-5. During more than fifty years after that journey its only visitors were trappers and Indian traders and a few Catholic missionaries, until the discovery of gold attracted immigration in 1861. The fame of the fabulously rich Alder and Last Chance gulches created a regular "stampede" to Montana, and the country passed through a terrible ordeal in the struggle of the law-abiding citizens to free themselves from the lawless elements which were for a time almost in the majority, and made life and property insecure. Society was finally purified through the organization of societies of "Vigilantes," who dealt out swift and sure punishment to the evil-doers, and Montana has ever since been a law-abiding community. When the cream of the placers was taken off a reaction set in, and a large part of the floating population left Montana; but its many resources attracted soon a more permanent class of settlers, and during the last fifteen years its progress has been sure and steady.

In early days all goods and passengers came overland from the Union Pacific Railroad in mule and ox teams, or by steamboat to Fort Benton; but in 1880 the Utah and Northern entered the territory, and in 1883 the Northern Pacific was completed. Among the Indian wars may be mentioned: Colonel Baker's Piegan campaign in 1869-70; the great Sioux war of 1876, when General Custer and his command were massacred in the battle on the Little Big Horn; the Nez Percé campaign of 1877, when Gibbon fought the battle on the Big Hole, and the Indians led Howard the long chase to the Bear Paw, where they were finally scattered or captured by Miles; and finally the Bannack campaign of 1878. Since then there have been no serious outbreaks, and the Indians are now thoroughly quieted.

A constitution for the "State of Montana" was adopted in 1885; but no steps have yet been taken by Congress looking towards its admission as a state.

NOTE.—The elevation of some of the peaks, passes, towns, etc., in the territory are given below:

Peaks: Crazy, 11,178 feet; Electric, 11,155; Emigrant, 11,034; Mount Powell, 10,500; Old Baldy, 9711; Bridger, 9002; Highwood, 7604; Pompey's Pillar, 2869.—**Passes:** Marias, 8500; Lewis and Clarkes, 6323; Cadottes, 6014; Deer Lodge, 5808; Bridger, 6147; Reynolds, 6838; Pleasant Valley, 6030; Judith Gap, 4650.—**Tunnels:** Bozeman, 5565; Mullan, 5548.—**Towns:** Glendive, 2067; Miles City, 2353; Billings, 3115; Livingston, 4485; Bozeman, 4820; Gallatin, 4030; Helena, 4262; Missoula, 3195; Butte, 5800; Deer Lodge, 4768; Virginia City, 5480; Fort Benton, 2674; White Sulphur Springs, 4957; Lewiston, 3890.



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